DRAWING INDEX

●		COVER
●	A0.01	PROJECT INFO
●	A0.10	CODE ANALYSIS
●	A0.11	ENERGY COMPLIANCE REPORT
●	A0.12	ENERGY COMPLIANCE REPORT
●	~~A0.13~~	~~ENERGY COMPLIANCE REPORT~~ (DELETED)
●	~~A0.14~~	~~ENERGY COMPLIANCE REPORT~~ (DELETED)
●	~~A0.15~~	~~ENERGY COMPLIANCE REPORT~~ (DELETED)
●	~~A0.16~~	~~ENERGY COMPLIANCE REPORT~~ (DELETED)
●	~~A0.17~~	~~ENERGY COMPLIANCE REPORT~~ (DELETED)
●	~~A0.18~~	~~ENERGY COMPLIANCE REPORT~~ (DELETED)
	A0.20	SPECIFICATIONS
	A0.21	SPECIFICATIONS
	A0.22	SPECIFICATIONS
	A0.23	SPECIFICATIONS
	C1.00	CIVIL TITLE SHEET
	C1.01	GENERAL NOTES SHEET
	C2.00	OVERALL SITE & UTILITY PLAN
	C2.01	HORIZONTAL CONTROL PLAN
	C3.00	OVERALL GRADING PLAN
	C4.00	EROSION PLAN
	C5.00	MISC DETAILS
	C5.01	MISC DETAILS
	C5.02	MISC DETAILS
	C5.03	EROSION CONTROL DETAILS
●	A1.00	SITE PLAN
●	A1.20	OVERALL PLANS
	A1.21	TYPICAL UNIT ENTRY & LOWER LEVEL FLOOR PLANS
	A1.22	TYPICAL UNIT UPPER & ROOF LEVEL FLOOR PLANS
	A1.23	LOT 124 ENTRY & LOWER LEVEL FLOOR PLANS
	A1.24	LOT 124 UPPER LEVEL & ROOF PLANS
	A1.25	LOT 133 ENTRY & LOWER LEVEL FLOOR PLANS
	A1.26	LOT 133 UPPER LEVEL AND ROOF PLANS
	A1.27	LOTS 125 & 126 PARTIAL PLANS & REFLECTED CEILING PLANS
	A1.28	TYPICAL UNIT END WALL CONDITION
●	A1.51	TYPICAL UNIT REFLECTED CEILING PLANS
	A1.53	LOT 124 ENTRY & LOWER LEVEL REFLECTED CEILING PLANS
	A1.54	LOT 124 UPPER LEVEL REFLECTED CEILING PLAN
	A1.55	LOT 133 ENTRY & LOWER LEVEL REFLECTED CEILING PLANS
	A1.56	LOT 133 UPPER LEVEL REFLECTED CEILING PLAN
	A2.00	TYPICAL UNIT SECTION A-A
	A2.01	TYPICAL UNIT SECTION B-B
	A2.02	TYPICAL UNIT SECTION C-C
	A2.03	TYPICAL UNIT SECTION D-D
	A2.10	TYPICAL STAIR PLANS & SECTIONS
●	A2.11	TYPICAL STAIR DETAILS
	A2.50	INTERIOR ELEVATIONS
	A2.51	INTERIOR ELEVATIONS
	A2.52	INTERIOR ELEVATIONS
	A2.53	INTERIOR ELEVATIONS
	A2.54	INTERIOR ELEVATIONS
	A3.10	OVERALL EXTERIOR ELEVATIONS
	A3.11	TYPICAL UNIT EXTERIOR ELEVATIONS
	A3.12	LOT 124 EXTERIOR ELEVATIONS
	A3.13	LOT 133 EXTERIOR ELEVATIONS
	A5.00	FOUNDATION DETAILS
	A5.01	EXTERIOR DETAILS
	A5.02	EXTERIOR DETAILS
	A5.03	EXTERIOR DETAILS
	A5.04	EXTERIOR DETAILS
	A5.07	TERRACE DETAILS
	A5.08	DETAILS
	A5.09	ROOFING DETAILS
	A5.10	INTERIOR DETAILS
	A5.11	INTERIOR DETAILS
	A5.12	MILLWORK DETAILS
	A6.00	WALL SCHEDULE
	A6.01	WALL SCHEDULE
●	A6.02	WALL SCHEDULE
●	A6.10	WINDOW SCHEDULE
	A6.20	DOOR SCHEDULE
	A9.21	TYPICAL UNIT ENTRY & LOWER LEVEL FINISH & FURNITURE PLANS
	A9.22	TYPICAL UNIT UPPER LEVEL FINISH & FURNITURE PLAN
	A9.23	LOT 124 ENTRY & LOWER LEVEL FINISH & FURNITURE PLANS
	A9.24	LOT 124 UPPER LEVEL FINISH & FURNITURE PLAN
	A9.25	LOT 133 ENTRY & LOWER LEVEL FINISH & FURNITURE PLANS
	A9.26	LOT 133 UPPER LEVEL FINISH & FURNITURE PLAN

●	S0.10	GENERAL STRUCTURAL NOTES
	S0.11	TYPICAL DETAILS
●	S0.12	SCHEDULES
	S0.13	SPECIAL INSPECTION STATEMENT
●	S1.01	FOUNDATION PLAN LOWER LEVEL
●	S1.02	FOUNDATION PLAN LOWER LEVEL
●	S1.03	FOUNDATION PLAN LOWER LEVEL
●	S1.11	FD./FLR. FRMG. PLAN ENTRY LEVEL
	S1.12	FD./FLR. FRMG. PLAN ENTRY LEVEL
●	S1.13	FD./FLR. FRMG. PLAN ENTRY LEVEL
	S1.21	FLOOR FRAMING PLAN UPPER LEVEL
	S1.22	FLOOR FRAMING PLAN UPPER LEVEL
●	S1.23	FLOOR FRAMING PLAN UPPER LEVEL
	S1.31	ROOF FRAMING PLAN ROOF LEVEL
	S1.32	ROOF FRAMING PLAN ROOF LEVEL
	S1.33	ROOF FRAMING PLAN ROOF LEVEL
	S2.10	TYPICAL UNIT SHEAR WALL ELEVATIONS
●	S2.11	UNIT 124 & 133 SHEAR WALL ELEVATIONS
	S2.12	SHEAR WALL FRAMING DETAILS
	S2.13	SHEAR WALL FRAMING DETAILS
	S3.10	FOUNDATION DETAILS
	S3.11	FOUNDATION DETAILS
	S4.10	FLOOR FRAMING DETAILS
	S4.11	FLOOR FRAMING DETAILS
	S4.12	FLOOR FRAMING DETAILS
	S5.10	ROOF FRAMING DETAILS
	S5.11	ROOF FRAMING DETAILS
●	M0.1	MECHANICAL SCHEDULES
	M0.2	MECHANICAL DETAILS
	M0.3	MECHANICAL NOTES
	M1.0	TYPICAL UNIT FLOOR PLANS
	M1.1	LOT 124 FLOOR PLANS
	M1.2	LOT 133 FLOOR PLANS
	M2.0	TYPICAL UNIT ZONING PLANS
	M2.1	LOT 124 ZONING PLANS
	M2.2	LOT 133 ZONING PLANS
	M3.0	MECHANICAL SPECIFICATIONS
●	P0.2	PLUMBING DETAILS
	P1.0	TYPICAL UNIT ENTRY & LOWER LEVEL FLOOR PLANS
	P1.1	TYPICAL UNIT ENTRY & LOWER LEVEL FLOOR PLANS
	P1.2	TYPICAL UNIT UPPER LEVEL & ROOF PLANS
	P1.3	LOT 124 ENTRY & LOWER LEVEL FLOOR PLANS
	P1.4	LOT 124 ENTRY & LOWER LEVEL FLOOR PLANS
	P1.5	LOT 124 UPPER LEVEL & ROOF PLANS
	P1.6	LOT 133 ENTRY & LOWER LEVEL FLOOR PLANS
	P1.7	LOT 133 ENTRY & LOWER LEVEL FLOOR PLANS
	P1.8	LOT 133 UPPER LEVEL & ROOF PLANS
	P2.0	TYPICAL UNIT PLUMBING DIAGRAMS
	P2.1	LOT 124 PLUMBING DIAGRAMS
	P2.2	LOT 133 PLUMBING DIAGRAMS

	E0.1	ELECTRICAL LEGEND & NOTES
	E1.0	ELECTRICAL SITE PLAN
●	E2.0	TYPICAL UNIT ENTRY AND LOWER LEVEL FLOOR PLANS
	E2.1	LOT 124 ENTRY & LOWER LEVEL FLOOR PLANS
	E2.2	LOT 133 ENTRY & LOWER LEVEL FLOOR PLANS
	E3.0	ONE-LINE DIAGRAM
	FP1.0	FIRE PROTECTION SPECIFICATIONS
	FP2.0	TYPICAL UNIT REFLECTED CEILING PLAN
	FP2.1	UNIT 124 REFLECTED CEILING PLAN
	FP2.2	UNIT 133 REFLECTED CEILING PLAN
	L1.1	LANDSCAPE PLAN
	L1.2	LANDSCAPE DETAILS

DELTA REVISIONS

1 2017.06.26 - PLAN REVIEW RESPONSES AND BID CLARIFICATIONS

SUMMIT

POWDER MOUNTAIN

ORR PARTNERS

POWDERCAT TOWNHOMES

architect
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130 N Central Avenue No.300
Phoenix, Arizona 85004
T 602 251 3800

sma project no.
16-101

sma project name
POWDERCAT

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328 W 200 S
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t (801) 583-1295

STATE OF UTAH
DANIEL HOFFMAN
No. 7829867-0301
LICENSED ARCHITECT
June 26, 2017

PROJECT

scale

1

PERMIT SET
phase / rev

2017.06.01
date

DRAFTING SYMBOLS

GRID/COLUMN LINE

WORK, CONTROL, DATUM POINT, OR SPOT ELEVATION

WORK, CONTROL, OR DATUM POINT

STUD SIZE REFERENCE
frame wall type

DENOTES ALIGNMENT

WINDOW MARK

DOOR MARK

FIRE SPRINKLER HEAD

SMOKE DETECTOR

FINISH KEY

FINISHED CEILING HEIGHT

REVISION DELTA

KEYNOTE

PORTABLE FIRE EXTINGUISHER

FLOOR RECEPTACLE

DETAIL/SECTION MARKS

DETAIL
detail number
sheet number
direction of cut

EXTERIOR ELEVATION
drawing number
sheet number
direction of arrow is direction of view

INTERIOR ELEVATION
sheet number
direction of arrow is direction of view

BUILDING SECTION
direction of arrow is direction of view

WALL SECTION
direction of arrow is direction of view

MATERIALS / HATCH LEGEND

CONCRETE

AGGREGATE BASE COURSE

EARTH

RIGID INSULATION

DECOMPOSED GRANITE

BATT INSULATION / FIRE SAFING

GLASS, SMALL SCALE

PLYWOOD

WOOD, FINISH

GYPSUM WALLBOARD

STEEL

ALUMINUM

WOOD BLOCKING, CONTINUOUS

WOOD BLOCKING, NOT CONTINUOUS

MDF

TO BE DEMOLISHED

ABBREVIATIONS

AB	anchor bolt	GWB, GYP	gypsum wallboard	R	riser
ABV	above			RA, R/A	return air
ADJ	adjacent	HDG	hot dip galvanized	REV	revision
AFF	above finished floor	HDWD	hardwood	REF	reference, refer to
ALU, ALUM	aluminum	HDR	header	RO	rough open'g
BEL	below	HC	hollow core	S	south
B.O.	bottom of	HB	hose bibb	SH	shelving
BOT	bottom	HM	hollow metal	SIM	similar
BM	beam	HORZ	horizontal	SOG	slab on grade
CIP	cast in place	HWH	hot water heater	SPEC	specifications
CL	centerline			SSTL	stainless steel
CLG	ceiling	I/S	inside	STL	steel
CLR	clear	JT	joint	THK	thick, -ness
CMU	concrete masonry unit	LAV	lavatory	T.O.	top of
		MAS	masonry	T.O.W.	top of wall
COL	column	MAX	maximum	TYP	typical
CONC	concrete	MFR	manufacturer	UNO	unless noted otherwise
CONT	continuous	MTL	metal		
CJ	control joint	MECH	mechanical	U/G	underground
DIA	diameter	MWK	millwork	U/S	underside
DR	door	MIN	minimum	VERT	vertical
DTL	detail	N	north	VG	vertical grain
(E)	existing	N/A	not applicable	VIF	verify in field
EJ	expansion joint	NIC	not in contract	W	wide, width, west
		NTS	not to scale		
EPB	electrical panel board	O/	over	W/	with
		O.C.	on center	WH	water heater
EXG	existing	OS, O/S	outside	WIN, WDW	window
FFE	finished floor elevation	OD	outside diameter	W/O	without
				W.O.	where occurs
F.O.	face of	OH	overhead		
FTG	footing	OP-SIT	opposite		
GA	gauge	PNT	paint, -ed		
GALV	galvanized	PSF	pounds per sq. ft.		
GL	glass				
GLB	glue - laminated beam	PSI	pounds per sq. in.		
		PL	property line		
GSN	general structural notes	PT, P-T	pressure treated		
		PTD	painted		

DEFERRED SUBMITTALS

GENERAL NOTE: Documents for deferred submittal items shall be submitted to the registered design professional in responsible charge who shall review them and forward them to the building official with a notation indicating that the deferred submittal documents have been reviewed and been found to be in general conformance to the design of the building. The deferred submittal items shall not be installed until the design and submittal documents have been approved by the building official.

1. fire sprinkler (by Others)
2. pre-fabricated wood i-joists (by Others)
3. pre-fabricated wood trusses (by Others)
4. window system wind-loading steel reinforcement, and calculations (by Others)

Refer to the drawings for additional information.

BUILDING INSPECTION AND FIRE DISTRICT REQUIREMENTS

GENERAL NOTES:

1. Fire access roads for this project shall be completed and approved prior to any combustible construction. Temporary roads shall meet the same requirements for height, width and imposed loads as permanent roads.
2. All required fire hydrants and water systems shall be installed, approved and fully functional prior to any combustible construction.
3. Fire department apparatus access is required for each lot.
4. If the building is equipped with a fire department connection (FDC) there shall be a cement pad measuring 3 ft x 3 ft under the FDC (coordinate with fire inspector regarding this).

APPROVED DOCUMENTS AND PERMIT SET:
Contractor shall maintain all permits, and no less than one (1) approved/stamped set of construction documents on site and available for inspector review, including plan sets for building construction and deferred submittal scope, including fire suppression systems, fire alarm systems, and any other work requiring a permit.

PLANNING DEPARTMENT AND DEVELOPMENT REQUIREMENTS

GENERAL NOTES:

1. As per Weber County LUC §108-2-4, All glass and windows shall be "non-reflective glass".
2. As per Weber County LUC §108-2-4, All metal siding and metal roofing shall be "non-reflective metal".

GENERAL NOTES

1. Contractor to obtain all permit(s) required for work and include all costs within the bid.
2. Unless noted otherwise, Contractor to provide a completed AIA Form A305-1986, Contractor's Qualification Satement with bid submittal. Agreement between Owner and Contractor shall be Owner's form of construction agreement to be included in bidder instructions. The General Conditions of the Contract for Construction shall be AIA form A201-2007.
3. Contractor to provide a Critical Path Method (CPM) schedule with bid. Contractor to provide a parallel schedule indicating corresponding approval dates for parcel Owner sign-off for which an Owner upgrade or alternate is available - beyond this approval date, pending any approved schedule revisions, the base-bid condition will prevail. Owner and Contractor to establish a schedule and agreed-upon liquidated damages if work is not substantially complete by Contractor's proposed schedule.
4. Provide dumpster. No trash allowed to be seen above top of dumpster. Contractor to leave the site in a neat and orderly manner, free of trash and debris, daily. Dispose of all trash, debris, and construction waste in a proper, legal manner.
5. Provide a temporary toilet and clean on not less than a weekly basis.
6. Job should be staffed properly for the stage of construction - a superintendent to be present at all times during construction.
7. The first pay application may be submitted at the end of the first month of work. Pay application to be standard AIA forms G702 and G703, and to include only materials installed on the job, a full breakdown of the work, and all lien releases, conditional and unconditional.
8. All changes will be done by fully executed Change Orders, signed by Owner, Contractor, and Architect, before the work is initiated. Change Orders shall include, at a minimum, any and all changes to the contract sum and contract time. Contractor is not authorized to make changes without a fully executed Change Order. Work performed not in accordance with the contract documents and without a fully executed Change Order shall be at the Contractor's sole risk.
9. Minimum standards of workmanship from the Utah Division for Occupational and Professional Licensing, National Association of State Contractor Licensing Agencies Residential Construction Standards, or respective trade organization shall not be used in determining the acceptability of work unless no other level of quality is specified.
10. All disputes shall be settled by mediation and then litigation, unless otherwise stipulated in the Owner Contractor Agreement.
11. Where the notes, drawings, or specifications disagree (whether within a discipline of work, or between disciplines), Contractor may request a clarification during the bidding period, otherwise the more stringent, or costly, requirement(s) shall govern.
12. Establish and verify all openings and inserts for mechanical, electrical and plumbing w/ the appropriate trades, drawings and subcontractors prior to construction. Contractor to obtain approval from Owner indicating sign-off on all fixture, equipment, and other upgrades or alternates that may affect rough-in locations, or other trades, prior to commencing work.
13. Verify and coordinate all dimensions and conditions prior to starting work. Notify Architect of any discrepancies, inconsistencies, or conditions not covered in the documents in sufficient time so as to not cause delay. Contractor to hold preconstruction/preinstallation meetings prior to the start of any subcontractor's work.
14. Details are applicable where indicated by section cut, by note or by detail title. Provide similar details at similar conditions unless noted otherwise. Contractor may request a clarification during the bidding period otherwise the more stringent, or costly, requirement(s) shall govern.
15. The drawings show the completed Project, they do not include components that may be necessary for construction safety. Contractor is responsible for safety on and around the jobsite during construction and for repairing any damage caused by Contractor (including damage to adjacent or public properties) at no additional cost to Owner.
16. Dimensions:
    - Do not scale drawings - use dimensions only. Dimensions shall take precedence over scale on Construction Documents.
    - Contractor shall verify all dimensions and conditions in field. If a dimensional error occurs or a condition not covered in the drawings is encountered, Contractor shall notify Architect, in writing, before commencing that portion of the work.
    - Dimensions, where shown, are normally given:
        1. to face of sheathing, concrete, or masonry (exterior)
        2. to face of finish, or finished face of cabinetry or fixture (interior)
        3. to center lines
17. The starting of work by any Contractor shall be considered *prima facie* evidence that he has inspected the Documents and examined the conditions under which materials will be installed and finds them satisfactory.
18. The contractor shall supervise and direct the work using best skill and attention. He shall be solely responsible for all methods, techniques, sequences, and procedures, and for coordination of all portions of the work under contract. Contractor shall be solely responsible for coordinating the sequence of work to avoid conflicts with equipment or fixture installation, or other conditions that may potentially be in conflict with previously installed work.
19. Apply, install, connect, erect, use, clean, and condition all manufactured articles, materials, and equipment in accordance w/ the manufacturer's written specifications, instructions and recommendations unless specified to the contrary herein. All materials for use shall be new unless otherwise noted. No asbestos or materials w/ pcb's shall be used on this Project.
20. Caulk, seal, and/or weatherproof penetrations in walls, ceilings, and floors for plumbing, electrical, and other openings in the building envelope. Provide appropriate 'Quickflash' small-penetration flashing (http://www.quickflashproducts.com/), or equivalent, at all penetrations through the exterior envelope. Review all visible penetrations with Architect prior to installation; special care shall be taken with such penetrations; i.e. decorative sleeves shall be provided and/or a change to the material of the penetrating item shall be made at the Architect's sole discretion and at no additional cost to the Owner.
21. The sealing methods between dissimilar materials shall allow for differential expansion and contraction. The following shall be caulked, gasketed, weatherstripped or otherwise sealed with an air barrier material, suitable film or solid material:
    - all joints, seams and penetrations.
    - site-built windows, doors and skylights.
    - openings between window and door assemblies and their respective jambs and framing.
    - utility penetrations.
    - dropped ceilings, knee walls, or chases adjacent to the thermal envelope.
    - walls and ceilings separating a garage, crawl space, or unconditioned basement, from conditioned spaces.
    - behind tubs and showers on exterior walls.
    - all penetrations and access openings through the subfloor or roof/attic framing
    - rim joist junction.
    - other sources of infiltration.
22. Prime coat all surfaces (unless other finish is specified) at such areas which will be concealed by built-ins, cabinets, etc.
23. All glazing, including vertical windows and skylights, to meet Building Code requirements - refer to window schedule for additional information.

PROJECT INFORMATION

PROJECT DESCRIPTION: New single-family townhouses located in the Summit | Powder Mountain development located at the top of Powder Mountain in Eden, Utah. The site is adjacent to the future area of the development known as "the village". The dwellings have an individual expression, but are collected under one undulating roof. This shared structure provides a reduced design and construction cost, while increasing available space, with higher energy efficiency. The dwellings vary in orientation, which provides a nice rhythm to the structure.

The low profile of the structure is "neighbor friendly" in that it minimizes obstructions to views from uphill sites. The slope of the site allows for a multi-level solution with the upper floor under the undulating roof as a large, inviting and generous room, organized on two levels. Views of the valley are to the south through the living room window wall and bedroom windows on the lower two levels; views to the mountaintop are to the north through the kitchen windows.

The building shell consists of wood framing members, and is highly insulated both in the stud cavities as well as with continuous insulation at the exterior.

The primary exterior materials are wood siding and weathered 'Corten' steel, with a metal roof. Interior materials consist of tile and wood flooring, wood paneling, gypsum drywall, and glass/frosted glass.

MARKET VALUE: tbd / by owner

PROJECT ADDRESS: Summit | Powder Mountain development located in Eden, UT, in the Phase 1c, lots: 124 through 133

ZONING: Town house district, e-1.3.1

DISTRICT REGULATIONS:
- minimum lot dimensions / n/a
- on site water and sewer
- building setbacks / 0' front, 0' side, 5' rear
- maximum height / 2 stories and 35'
- lot coverage / 20% landscape requirement
- allowed uses / single-family dwellings
- parking / 1 space

LEGAL DESCRIPTION: refer to civil

LOT AREA: **refer to civil for lot areas; refer to recorded plat for addressing**

BUILDING AREA: refer to floor plans

UTILITIES:
gas: questar gas 801.324.3539
electric: rocky mountain power 801.629.4310
water: powder mountain water & sewer improvement district 801.983.2727
comm: (private)

OCCUPANCY: R-3

CONSTRUCTION: TYPE V-B (1)

BUILDING CODES: refer to building code analysis

PROJECT TEAM:

/ master developer
summit | powder mountain
chief operating officer: jeff werbelow, 435.640.7002, jwerbelow@summit.co
director of design: sam arthur, 949.370.2558, sam@summit.co

/ project developer
orr partners
president: david orr, 703.289.2112, david.orr@orrpartners.com
partner: ryan orr, 703.289.2100, ryan.orr@orrpartners.com

/ design team
architect / studio ma, inc. / 602.251.3800
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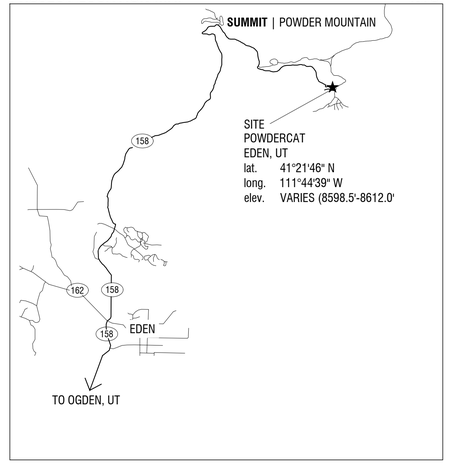
project architect: dan hoffman, hoffman@studioma.com
project manager: tim keil, keil@studioma.com

structural: mark rudow, **rudow+berry**, 480.946.8171, mrudow@rbise.com
mp&e: bob harris, **pace**, 602.943.4116, bobh@mpeconsult.com
landscape: eric langvardt, **langvardt design grp**, 801.583.1295, eric@langvardtdesigngroup.com
civil: ryan cathey, **talisman civil consultants**, 801.743.1300, ryan.cathey@nv5.com

/ contractor
general contractor: TBD

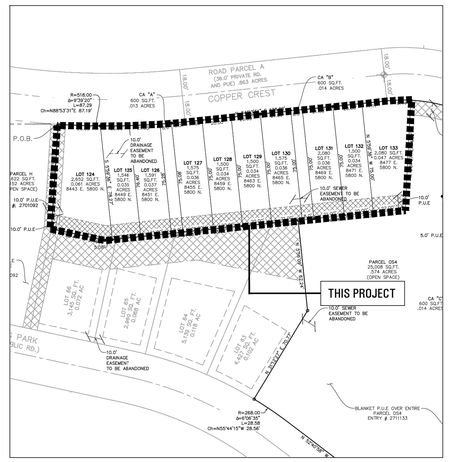
PROJECT LOCATION MAP

NTS



PARTIAL PLAT (ref. civil)

NTS



SITE AERIAL / OVERLAY

NTS

architect
STUDIO MA
130 N Central Avenue No.300
Phoenix, Arizona 85004
T 602 251 3800

sma project no.
16-101

sma project name
POWDERCAT

OWNER
orr powdercat th development, llc
11180 sunrise valley drive, ste 300
reston, va 20191
t (703) 289-2125

CIVIL
talisman civil consultants
5217 south state st, ste 200
murray, ut 84107
t (801) 743-1308

STRUCTURAL
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4032 n miller rd. a100
scottsdale, az 85251
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MECH/PLBG/ELEC
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7201 n dreamy draw dr, ste 200
phoenix, az 85020
t (602) 388-1732

LANDSCAPE
langvardt design group
328 W 200 S
salt lake city, ut 84101
t (801) 583-1295

STATE OF UTAH
DANIEL HOFFMAN
No. 7829867-0301
LICENSED ARCHITECT
June 26, 2017

A0.01
PROJECT INFO

N/A
scale

(1)
PERMIT SET
phase / rev

2017.06.01
date

SITE DATA

Project Location:
Summit | Powder Mountain development located in Eden, UT, in the Phase IC, Town House District, E-1.3.1. Lots: 124,125,126,127,128,129,130,131,132 and 133
Lat: 41°21'46" N Long: 111°44'39" W
Elev: varies (8598.5'-8612.0')
Site Area (sq. ft.): Refer to plat
Legal Description: Refer to civil plans
Zoning: Town House District, E-1.3.1
Seismic Data: Refer to general structural notes

Lot:	Address:
124	8443 E Copper Crest Road
125	8449 E Copper Crest Road
126	8451 E Copper Crest Road
127	8455 E Copper Crest Road
128	8459 E Copper Crest Road
129	8463 E Copper Crest Road
130	8465 E Copper Crest Road
131	8469 E Copper Crest Road
132	8471 E Copper Crest Road
133	8477 E Copper Crest Road

WEBER COUNTY BUILDING CODE DATA
Governing Building Codes:

- 2015 i-Codes
- 2009 ANSI A117.1
- 2014 NEC
- 2006 Wildland-Urban Interface Code
- Any amendments to the above mentioned codes as required by the Utah Code and the Utah Administrative Code.

Products:
All products listed by ICBO numbers, NER numbers, ICC-ES reports shall be installed per the report and manufacturer's written instructions and recommendations. Product substitutions for products listed shall also have ICBO approved evaluation reports or ICC-ES reports or be approved and listed by other nationally recognized testing agencies and acceptable to the authority having jurisdiction.

PROJECT DESCRIPTION
Occupancy:
Multiple single-family dwellings (townhouses) not more than three stories in height with separate means of egress. All dwellings are sprinklered and separated by common fire-resistance-rated party walls.

CH. 3 / BUILDING PLANNING

DESIGN CRITERIA
Construction Type: Type V-B
Evaluation Code: 2015 IRC with Utah amendments

Climate Zone: 5b [TABLE N1101.10 (TABLE R301.1)]
Notes:
1. *"B" designation indicates that location is considered "dry" as per Figure N1101.10 (R301.1).*
2. *Weber County Weather Data:*
Heating Cost Index: 285.00 (usa.com)
Cooling Cost Index: 145.67 (usa.com)
Average Temperature: 50.3° (usa.com)
Avg. July High Temp.: 90.9° (weber cty)
Avg. Jan. Low Temp.: 16.5° (weber cty)
Precipitation: 17.2" (weber cty)
Snow: 53.3" (weber cty)
Wind Speed: 17.42 mph

Air Freezing Index: 2000 [FIGURE/TABLE R403.3(2)]
Weathering Probability for Concrete: Severe [FIGURE R301.2(3)]
Termite Infestation Probability: Moderate to Heavy [FIGURE R301.2(6)]

FIRE RESISTANT CONSTRUCTION
Exterior Walls: SEE TABLE

Common Party (demising) Walls: each townhouse is considered a separate building and is separated by a common minimum 1-hour-fire-resistance-rated wall in accordance with R302.2, exc. 2, provided such walls do not contain plumbing or mechanical equipment, ducts or vents in the cavity of the common wall. Electrical installation shall be installed in accordance with Chapters 34 through 43. Penetrations shall be in accordance with Section R302.4 [R302.2]. Wall shall be continuous from footing to underside of roof sheathing [R302.2.1]. Parapets not required if the roof is Class C (min.) and roof sheathing is either noncombustible or fire-retardant-treated wood for a distance of 4' on each side of the wall [R302.2.2]. Structural independence of each townhome is not required [R302.2.4, exc. 5]

Note: the current drawings depict the party wall as an area separation wall as per UL design U 336, providing up to a 2 hour separation. Either a layer of noncombustible cementitious sheathing must be provided on top of the roof structure, or the roof sheathing must be fire-retardant-treated wood for a distance of 4' on either side of the wall, and a minimum Class C roof must be provided. Penetrations to be protected in accordance with R302.4, and per UL System No. W-L-7188.

Dwelling/Garage Fire Separation [TABLE R302.6]:
Walls: 1/2" thk. gwb applied to the garage side. Ceiling: 5/8" thk. Type X gypsum board.

Penetrations & Openings in Garage Walls: 1-3/8" min. thickness solid wood doors, solid or honeycomb-core steel doors, or 20-minute fire-rated doors, equipped with self-closing device [R302.5.1]. Ducts to be min. 26ga; no openings into garage [R302.5.2]. Other penetrations to be protected with approved materials but are not required to meet ASTM E 136 [R302.5.3; ref. R302.11.4].

Under Stair Protection: enclosed accessible space to be protected with min. ½" gwb [R302.7].
Foam Plastics: as per R316.
Flame Spread Index and Smoke Developed Index (per ASTM E84 or UL 273):
For Wall and Ceiling Finishes: flame spread 200 max [R302.9.1]; smoke developed index 450 max [R302.9.2].
For Insulation: flame spread 25 max & smoke developed 450 max [R302.10.1]. Refer to R316 for foam plastics: flame spread 75 max [R316.3]; foam plastic in roofing applications does not have to be separated by a thermal barrier, nor does it have a limitation on smoke developed index [R316.5.2], except where limited by other applicable codes or regulations.
Note: rigid foam insulation above structural roof deck to be XPS insulation.

Fireblocking: provide if wood frame, or combustible, construction in concealed floor and stair spaces, openings, chimneys and fireplaces [R302.11]. Materials to be as per R302.11.1.
Draftstopping: n/a

LIGHT, VENTILATION AND HEATING
Habitable Rooms (living, sleeping, eating, cooking): 8% min. glazing area; ventilation (operable windows, doors, etc.) 4% min. [R303.1].
Bathrooms: glazing 3 sq. ft. min.; ventilation 1.5 sq. ft. min., unless electric lighting and mechanical exhaust is provided [R303.3].
Mechanical Ventilation: required if air changes are less than 5 per hour [R303.4].

Stairway Illumination: 1 fc on treads and landings with switches top & bottom [R303.7].
Required Heating: heating facilities capable of min. room temp. of 68-degrees [R303.9].

MINIMUM ROOM AREAS
Rooms area: all habitable rooms not less than 70 sq. ft., except kitchens [R304.1].
Dimensions: habitable rooms not less than 7 ft in any dimension, except kitchens [R304.2]

CEILING HEIGHT
Minimum Height: not less than 7 ft, unless a closet or not occupiable [R305.1]. In rooms with sloped ceilings at least 50% of required floor area to be 7 ft min., and never less than 5 ft.
Bathrooms may be 6'-8" min. [R305.1 exc. 1]

Note: current design provide a minimum ceiling height in the kitchen, above the back of the counter, of 7 ft. This height can be reduced if desired to a minimum of 5 ft as noted.

SANITATION
Toilet Facilities: min. (1) water closet, lav, and bathrub or shower [R306.1].
Kitchen: kitchen area with sink [R306.2].
Sewage Disposal: sanitary sewer or approved private sewage disposal [R306.3].
Water Supply: fixtures connected to approved water supply; hot and cold water to kitchen sinks, lavs, tubs, showers, bidets, laundry tubs, washing machine outlets [R306.4].

TOILET, BATH AND SHOWER SPACES
Space Required: as per R307.1 and P2705.1
Bathtub and Shower Spaces: floors, walls, and walls above tubs with shower heads to be nonabsorbent to 6 ft min. [R307.2].

GLAZING
Identification: safety and multi-pane glazing to be designated [R308] and tested as per CPSC 16 CFR 1201, Category II [R308.1.1].
Safety Glazing: at all hazardous locations including glazing in doors, adjacent to doors, in windows with lites > 9 sq. ft., bottom edge less than 18 inches above the floor, top edge more than 36" above floor, walking surfaces within 36 inches; exceptions for rails. [R308.4.3].
Guards/rails [R308.4.4]; wet surfaces including enclosures for bathtubs, showers, steam rooms, as fences/gates around hot tubs or pools [R308.4.5]; adjacent to stairs/ramps [R308.4.6].
Site Built Windows: ref. IBC Section 2404 [R308.5].

GARAGES AND CARPORTS
Floor Surface: noncombustible, sloped where for parking of automobiles, to drain or to main vehicle entry doorway [R309.1].
Carports: n/a
Automatic Garage Door Openers: listed and labeled per UL 325 [R309.4].
Fire Sprinklers: not required [R309.5].

EMERGENCY ESCAPE AND RESCUE OPENINGS
Emergency Escape and Rescue Required: basements, habitable attics, sleeping rooms [R310.1]. Minimum size 5.7 sq. ft. min. net clear [R310.2.1], 24" min. height [R310.2.1], 20" min. width [R310.2.1]. Maximum sill height 44" [R310.2.2]. Operational from inside without keys, tools [R310.1.1].

MEANS OF EGRESS
Means of Egress: continuous, unobstructed, *not through a garage* [R311.1].

Egress Door: min. (1) side-hinged 32" min. clear width, 78" min. clear height [R311.2].
Floors and Landings at Exterior Doors: landing or floor on each side of each exterior door, not less than the width of the door served, 36" in the direction of travel; 1/4" / ft. max. slope [R311.3]. 1.5" max. threshold height; exterior landing 7-3/4" max. below top of threshold if door swings in (screen doors are ok) [R311.3.1].
Vertical Egress: stairs as per R311.7.
Hallways: min. 3 ft. [R311.6].
Stairs: 36" clear width (handrails may project into); min. 6'-8" headroom; 12 ft max. vert. rise; 8" max. riser height & 9" min. tread depth (ref. amendment 15A-3-202.15). Nosings 3/4" min. on treads less than 11" depth; landings 36" min.; handrail on min. 1 side, continuous, return to wall or terminate in post or terminal [R311.7].

GUARDS AND WINDOW FALL PROTECTION
Guards: required where > 30" vertical. 36" min. guard height, 4" max. openings [R312.1]
Window Fall Protection: not required for windows > 24" A.F.F. [R312.2].

AUTOMATIC FIRE SPRINKLER SYSTEMS
Townhouses: required residential fire sprinkler system as per P2904. All areas of the dwelling unit except as follows: attics & unoccupied concealed spaces, clothes closets, bathrooms less than 55 sq. ft., garages, exterior porches, unheated entry areas (i.e. - mud rooms) [P2904.1.1].

Per Utah State Fire Code Act, provide weather-proof horn/strobe device located on the street side of the building as approved by the Fire Prevention Division; location to be coordinated with the fire inspector.
Provide interior horn/strobe device on each level of each unit which will activate upon fire suppression system activation.

Fire suppression and fire alarm systems are deferred submittals - Contractor shall prepare documents for, and apply for, permits for said work and will maintain permits on site for review by any inspector.

SMOKE ALARMS
Smoke Detection and Notification: listed and labeled per UL 217, installed as per IRC and NFPA 72 [R314.1]. Locations required: sleeping rooms, outside sleeping rooms, on each additional level (only upper level of split level dwellings required); (1) per 500 sq. ft. floor area on levels with more than 1,000 sq. ft. [NFPA 72, 29.5.1.3]. Smoke alarms to be interconnected or wireless communicating [R314.4].

CARBON MONOXIDE ALARMS
Carbon Monoxide Alarms: required outside each sleeping area [R315.3]; devices listed per UL 2075; per the IRC and NFPA 720 [R315]. Single-station alarms listed per UL 2034.

FOAM PLASTIC (refer to dwelling/garage separation, above)
Labeled per R316.2, flame spread 75 max., smoke-developed index 450 max., per ASTM E 84 or UL 723. Separate from interior by 1/2" gwb (not req'd where separated by min. 1" concrete). Roofing applications do not require thermal barrier [R316]. Doors, incl. garage doors, exempt.

PROTECTION OF WOOD AND WOOD BASED PRODUCTS AGAINST DECAY
Location Required: Naturally durable or preservative-treated wood required at 1) crawl spaces (n/a); 2) contact with concrete or masonry foundation walls closer than 8" to exposed ground; 3) sills & sleepers in direct contact with concrete on ground, unless separated by impervious moisture barrier; 4) ends of girders entering concrete or masonry walls w/ less than 1/2" clearance, all sides; 5) siding, sht'g, framing in exterior walls w/ less than 6" clear to grade, or 2" to concrete; 6) structural members exposed to weather; 7) members in contact with interior side of masonry or concrete walls below grade [R317.1].
Field Treatment: treatment of field-cut ends required [R317.1.1].
Ground Contact: n/a (*no wood embedded*) [R317.1.2]
Geographical Areas: n/a [R317.1.3]
Wood Columns: n/a *(no wood columns)* [R317.1.4]
Quality Mark: pressure-preservative-treated wood to be marked with required information as per R317.2.
Fasteners: coatings required at preservative-treated and fire-retardant treated wood required as per R317.3.

PROTECTION AGAINST SUBTERRANEAN TERMITES
Chemical Termiticide treatment, and/or treated or naturally-durable woods, and/or physical barriers, and/or metal framing required [R318.1]. Where applicable, lumber to be marked [R318.1.1]. Foam plastics not required to be protected in this zone [R318.4, ref. R301.2(6)].

SITE ADDRESS
Address numbers required to be visible from street [R319]. Provide letters/numbers with height no less than 4" and stroke width no less than 0.5". Provide in contrasting color to background surface.

ACCESSIBILITY
Not required (single family structure), R320.

ELEVATORS AND PLATFORM LIFTS
None [R321].

FLOOD RESISTANT CONSTRUCTION
Not applicable (project is not in a flood hazard area) [R322].

STORM SHELTERS
Not applicable (no storm shelters proposed as a part of this project) [R323].

CH. 4 / FOUNDATIONS

Refer to Geotechnical Report for soils and foundation information.
Refer to structural drawings for loads and design calculations.
Drainage: min. 6" in 10' away from structure (grade); 2% @ impervious surfaces [R401.3].
Materials: concrete (ref. struct.)
Footings: design and support as per geotechnical report and structural drawings.
Minimum Depth: extended below frost line [R403.1.4.1]
Slope: top surface to be level, bottom to slope not more than 10% [R403.1.5].
Footings adjacent to slopes - 12" plus 2% required [R403.1.7.3].
Frost-Protected Shallow Foundations: insulation to be as per ASTM C 578 [R403.3]. Protect, and provide gravel below horizontal insulation below ground, with drain to daylight [R403.3.3].
Air Freezing Index: 2000 [FIGURE/TABLE R403.3(2), Utah, Weber County].
Foundation Insulation: Provide extruded polystyrene insulation required [TABLE R403.3(1), footnotes d & e], calculated at 4.5R per inch (footnote c).

FOUNDATION DRAINAGE
Required where foundation walls retain earth and enclose habitable space below grade.
Perforated pipe to be installed at or below the area to be protected, with discharge to a drainage system by gravity. Perforated pipe to be placed on a min. of 2" of washed gravel, one sieve size larger than the perforation, and covered with not less than 6" of the same material. [R405].

FOUNDATION WATERPROOFING AND DAMPPROOFING
Waterproofing from top of footing to finished grade required. All joints in membrane waterproofing to be lapped and sealed [R406.2].

COLUMNS
Wood and steel column minimum sizes and protection to be as per R407.

UNDER-FLOOR SPACE
Not applicable (no under-floor space proposed) [R408]

CH. 5 / FLOORS

Refer to structural drawings.

CH. 6 / WALL CONSTRUCTION

Refer to structural drawings.

WOOD FRAMING
Sawn Lumber: DOC PS 20
Prefabricated Wood I-joists: ASTM D5055
Structural Glue Laminated Timber: ANSI/AITC A190.1 & ASTM D3737
Wood Structural Panels: DOC PS 1, DOC PS 2, or ANSI/APA PRP 210
Preservative Treated Wood: AWPA Standard U1 and M4; Preservatives as per AWPA U1

EXTERIOR WINDOWS AND DOORS
Note: For site built windows, refer to Building Planning, Glazing, R308.5. Site built windows to comply with IBC Section 2404.

Manufacturerd windows and doors to be installed and flashed in accordance with the fenestration manufacturer's written installation instructions. Flash per Section R703.4. Design of windows and doors to be as required for wind loads per Table R301.2(2), adjusted for height and exposure per Table R301.2(3). Compliance and labeling for windows and sliding doors required as per AAMA/WDMA/CSA 101/I.S.2/A440. Hinged doors AAMA/WDMA/CSA 101/I.S.2/A440 or comply with R609.3 (ASTM E 330, glass ref. R308.4.1) [R609]. Garage doors ASTM E 330 or ANSI/DASMA 108.

STRUCTURAL INSULATED PANEL WALL CONSTRUCTION
Not applicable (none specified) [R610].

CH. 7 / WALL COVERING

INTERIOR COVERING *Note: for flame spread & smoke-development requirements, ref. R302.9*

Interior Plaster:
Gypsum Plaster: materials - ASTM C 5, C 22, C 28, C 35, C 59, C 61, C 587, C 631, C 847, C 933, C 1032, C 1047; install per ASTM C 843 and C 844. Lath/base for veneer plaster ASTM C 1396.
Cement Plaster: materials - ASTM C 91 (Type M, S or N), C 150 (Type I, II and III), C 595 Type IP, I (PM), IS and I (SM), C 847, C 897, C 926, C 933, C 1032, C 1047 and C 1328; install per ASTM C 1063. Gypsum lath per ASTM C 1396.

Min. 3 coats o/ lath; 2 coats o/ other bases; veneer plaster 1 coat max. 3/16" thk., w/ total thickness per Table R702.1(1). SEE TABLE

Support spacing for gypsum or metal lath on walls or ceilings not to exceed 16" for 3/8" thick, or 24" for 1/2" thick plain gypsum lath. Lath to be at right angles to supports with end joints in adjacent courses staggered not less than one framing space [R702.2.3].

Gypsum Board: compliance with ASTM standards, over wood framing not less than 2" nominal thickness in the least dimension or furring strips not less than 1"x2" nominal over solid backing, 24" o.c. max. [R702.3.1]. 5/8" gwb, ceilings, framing perp. @ 24" o.c. max - Type W screws @ 12" o.c. max. w/ not less than 5/8" penetration. (16" o.c. for framing 16" o.c., requ'd @ water-resistant gwb areas) [R702.3.5, 702.3.6, 702.3.8].

Exterior wall gwb attachment to be as per Item 38, Table R602.3(1) (Type S @ 7" o.c. field, and boundary).

Water-resistant gwb @ base for nonabsorbent finish materials and ceramic tile to be ASTM C 1396, C 1178, or C 1278. Do not install a Class I or II vapor retarder in a shower or tub compartment. Seal all cut or exposed edges as per mfr [702.3.7].

Ceramic Tile: install per ANSI A108.1, 108.4, 108.5, 108.6, 108.11, 118.1, 118.3, 136.1, 137.1. Backers to be as per ASTM C 1288, C 1325, C 1178, or C 1278.

Other finishes: n/a | Wood Shakes and Shingles: n/a

Vapor Retarders: Class I or II required on interior side of frame walls (Climate Zone 5), except where wall is below grade, or a basement wall. Class shall be as per mfr certified testing; Class I - sheet polyethylene, unperforated aluminum foil; Class II - kraft-faced fiberglass batts [R702.7, R702.7.1].

EXTERIOR COVERING
Weather-resistance, water resistance, wind resistance and water-resistive barrier required [R703.1, R703.1.1]. Ref. TABLE R301.2(2) R301.2(3) for wind loads.

Steel Siding - over wood sht'g: min. 29ga, lap joints, w/ water-resistive barrier, corrosion-resistant 0.113 nail 1-3/4" (round head), ea. stud [TABLE 703.3(1)]
Wood Siding (rain screen):

Flashing: corrosion-resistant flashing (self-adhered membranes used as flashing as per AAMA 711) req'd @ ext. window and door openings; at intersection of chimneys; under and at the ends of masonry, wood or metal copings and sills; cont. above all projecting wood trim; where exterior porches, decks or stairs attach to a wall or floor assembly of wood-frame construction; wall and roof intersections; built-in gutters [R703.4] .

CH. 8 / ROOF-CEILING CONSTRUCTION

Refer to structural for structural design and loads.
Ventilation not required for unventilated attic and enclosed rafter assembly where insulation is Class II vapor barrier [R806.5].

CH. 9 / ROOF ASSEMBLIES

Classification: Class C per R302.2.2
Weather Protection: Coverings and flashings required [R903.2].

REQUIREMENTS FOR ROOF COVERINGS
Application: per Code, mfr. and component and cladding pressures [R905].
Thermoset Single-Ply Roofing: 1/4" per foot (2%) min. slope; ASTM D 4434, ASTM D 6754, ASTM D 6878, or CGSB CAN/CGSB 37.54 [R905.13].

ROOF INSULATION [R906.2]
Above-deck thermal insulation permitted if covered with roof covering and complies with FM 4450 or UL 1256.

CH. 10 / CHIMNEYS AND FIREPLACES

Note: if specified, the fireplace stove, a free-standing, chimney-connected solid-fuel-burning heater is listed, labeled and installed in accordance with the conditions of the listing, with testing per UL 127 [R1004]. Combustion air as per R1006.

CH. 11 / ENERGY EFFICIENCY

Ref. Energy Code

CH. 12 - 23 / MECHANICAL

Ref. mechanical

CH. 24 / FUEL GAS

Ref. mechanical and plumbing

CH. 25 - 33 / PLUMBING

Ref. plumbing

CH. 34 - 43 / ELECTRICAL

Ref. electrical

APPENDIX F / RADON CONTROL METHODS

Radon resistant construction is assumed based on radon levels in excess of 4 pCi/L (radon.utah.gov) in accordance with Zone 1 requirements [TABLE AF101(1)]. Site-testing for radon levels required to confirm radon mitigation techniques required.
Subfloor Preparation: gas-permeable, uniform layer of clean aggregate, min. 4" thick, passing through a 2" sieve and retained by a 1/4" sieve.
Soil-Gas-Retarder: min. 6-mil polyethylene flexible sheeting material placed on top of the gas-permeable layer; lap seams min. 12"; penetrations sealed.
Entry Routes: close/seal openings around bathtubs, showers, w/c, pipes, etc. with polyurethane caulk or equivalent sealant. Same for concrete joints.
Condensate Drains, Sumps, Air-Handling Units, Ducts, etc.: ref. mechanical and plumbing
Passive Subslab Depressurization System: ref. mechanical, plumbing, and electrical

APPENDIX K / SOUND TRANSMISSION

For separation between dwelling units:
Wall Assemblies: min. STC 45 when tested as per ASTM E 90. Concrete masonry assemblies to be as per TMS 0302 or testing in accordance with ASTM E 90.
Floor-Ceiling Assemblies: n/a

The sound transmission class (STC rating) of a double stud wall per USG 050819 is STC 66.

IECC REQUIREMENTS

(Note: Due to project location and altitude, project requirements are based on Climate Zone 6)

TABLE R402.1.1 [IECC N1102.1.1]
INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT [a]

CLIMATE ZONE	FENESTRATION *U*-FACTOR[b]	SKYLIGHT *U*-FACTOR[b]	GLAZED FENESTRATION SHGC[b, e]	CEILING R-VALUE	WOOD FRAME WALL R-VALUE	MASS WALL *R*-VALUE[i]	FLOOR R-VALUE	BASEMENT[c] WALL R-VALUE	SLAB[d] R-VALUE & DEPTH	CRAWL SPACE[c] WALL R-VALUE
6	0.32	0.55	NR	49	20+5 or 13+10[h]	15/20	30[g]	15/19	10, 4 ft	15/19

a. R-values are minimums. U-factors and SHGC are maximums. When insulation is installed in a cavity which is less than the label or design thickness of the insulation, the installed R-value of the insulation shall not be less than the R-value specified in the table.
b. The fenestration U-factor column excludes skylights. The SHGC column applies to all glazed fenestration. Exception: Skylights may be excluded from glazed fenestration SHGC requirements in Climate Zones 1 through 3 where the SHGC for such skylights does not exceed 0.30.
c. "15/19" means R-15 continuous insulation on the interior or exterior of the home or R-19 cavity insulation at the interior of the basement wall. "15/19" shall be permitted to be met with R-13 cavity insulation on the interior of the basement wall plus R-5 continuous insulation on the interior or exterior of the home. "10/13" means R-10 continuous insulation on the interior or exterior of the home or R-13 cavity insulation at the interior of the basement wall.
d. R-5 shall be added to the required slab edge R-values for heated slabs. Insulation depth shall be the depth of the footing or 2 feet, whichever is less in Climate Zones 1 through 3 for heated slabs.
e. There are no SHGC requirements in the Marine Zone.
f. Basement wall insulation is not required in warm-humid locations as defined by Figure R301.1 and Table R301.1.
g. Or insulation sufficient to fill the framing cavity, R-19 minimum.
h. First value is cavity insulation, second is continuous insulation or insulated siding, so "13+5" means R-13 cavity insulation plus R-5 continuous insulation or insulated siding. If structural sheathing covers 40 percent or less of the exterior, continuous insulation R-value shall be permitted to be reduced by no more than R-3 in the locations where structural sheathing is used – to maintain a consistent total sheathing thickness.
i. The second R-value applies when more than half the insulation is on the interior of the mass wall.

2015 INTERNATIONAL RESIDENTIAL CODE
TABLE R301.2(1)
CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA

GROUND SNOW LOAD (psf)	WIND DESIGN SPEED[d] (mph)	WIND DESIGN TOPOGRAPHIC EFFECTS[k]	SEISMIC DESIGN CATEGORY[f]	SUBJECT TO DAMAGE FROM WEATHERING[a]	SUBJECT TO DAMAGE FROM FROST LINE DEPTH[b]	SUBJECT TO DAMAGE FROM TERMITE[f]	WINTER DESIGN TEMP[e]	ICE BARRIER UNDERLAYMENT REQUIRED[h]	FLOOD HAZARDS[g]	AIR FREEZING INDEX[i]	MEAN ANNUAL TEMP[j]
263.1	115	?	D	SEVERE	3'-6"	MOD - HEAVY	-9.6°F	YES	?	1500 BF-days	45°F

a. Weathering may require a higher strength concrete or grade of masonry than necessary to satisfy the structural requirements of this code. The weathering column shall be filled in with the weathering index (i.e., "negligible," "moderate" or "severe") for concrete as determined from the Weathering Probability Map [Figure R301.2(3)]. The grade of masonry units shall be determined from ASTM C 34, C 55, C 62, C 73, C 90, C 129, C 145, C 216 or C 652.
b. The frost line depth may require deeper footings than indicated in Figure R403.1(1). The jurisdiction shall fill in the frost line depth column with the minimum depth of footing below finish grade.
c. The jurisdiction shall fill in this part of the table to indicate the need for protection depending on whether there has been a history of local subterranean termite damage.
d. The jurisdiction shall fill in this part of the table with the wind speed from the basic wind speed map [Figure R301.2(4)A]. Wind exposure category shall be determined on a site-specific basis in accordance with Section R301.2.1.4.
e. The outdoor design dry-bulb temperature shall be selected from the columns of 971/2-percent values for winter from Appendix D of the International Plumbing Code. Deviations from the Appendix D temperatures shall be permitted to reflect local climates or local weather experience as determined by the building official.
f. The jurisdiction shall fill in this part of the table with the seismic design category determined from Section R301.2.2.1.
g. The jurisdiction shall fill in this part of the table with (a) the date of the jurisdiction's entry into the National Flood Insurance Program (date of adoption of the first code or ordinance for management of flood hazard areas), (b) the date(s) of the Flood Insurance Study and (c) the panel numbers and dates of all currently effective FIRMs and FBFMs or other flood hazard map adopted by the authority having jurisdiction, as amended.
h. In accordance with Sections R905.2.7.1, R905.4.3.1, R905.5.3.1, R905.6.3.1, R905.7.3.1 and R905.8.3.1, where there has been a history of local damage from the effects of ice damming, the jurisdiction shall fill in this part of the table with "YES." Otherwise, the jurisdiction shall fill in this part of the table with "NO."
i. The jurisdiction shall fill in this part of the table with the 100-year return period air freezing index (BF-days) from Figure R403.3(2) or from the 100-year (99 percent) value on the National Climatic Data Center data table "Air Freezing Index-USA Method (Base 32°F)" at www.ncdc.noaa.gov/fpsf.html.
j. The jurisdiction shall fill in this part of the table with the mean annual temperature from the National Climatic Data Center data table "Air Freezing Index-USA Method (Base 32°F)" at www.ncdc.noaa.gov/fpsf.html.
k. In accordance with Section R301.2.1.5, where there is local historical data documenting structural damage to buildings due to topographic wind speed-up effects, the jurisdiction shall fill in this part of the table with "YES." Otherwise, the jurisdiction shall indicate "NO" in this part of the table.

TABLE R302.1(2)
EXTERIOR WALLS—DWELLINGS WITH FIRE SPRINKLERS

EXTERIOR WALL ELEMENT		MINIMUM FIRE-RESISTANCE RATING	MINIMUM FIRE SEPARATION DISTANCE
Walls	Fire-resistance rated	1 hour—tested in accordance with ASTM E 119 or UL 263 with exposure from the outside	0 feet
	Not fire-resistance rated	0 hours	3 feet*
Projections	Fire-resistance rated	1 hour on the underside	2 feet*
	Not fire-resistance rated	0 hours	3 feet
Openings in walls	Not allowed	N/A	< 3 feet
	Unlimited	0 hours	3 feet*
Penetrations	All	Comply with Section R302.4	< 3 feet
		None required	3 feet*

For SI: 1 foot = 304.8 mm.
N/A = Not Applicable
a. For residential subdivisions where all dwellings are equipped throughout with an automatic sprinkler systems installed in accordance with Section P2904, the fire separation distance for nonrated exterior walls and rated projections shall be permitted to be reduced to 0 feet, and unlimited unprotected openings and penetrations shall be permitted, where the adjoining lot provides an open setback yard that is 6 feet or more in width on the opposite side of the property line.

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sma project no.
16-101

sma project name
POWDERCAT

OWNER
orr powdercat th development, llc
11180 sunrise valley drive, ste 300
reston, va 20191
t (703) 289-2125

CIVIL
talisman civil consultants
5217 south state st, ste 200
murray, ut 84107
t (801) 743-1308

STRUCTURAL
rudow+berry, inc.
4032 n miller rd. a100
scottsdale, az 85251
t (480) 946-8171

MECH/PLBG/ELEC
peterson associates consulting engineers, inc.
7201 n dreamy draw dr, ste 200
phoenix, az 85020
t (602) 388-1732

LANDSCAPE
langvardt design group
328 W 200 S
salt lake city, ut 84101
t (801) 583-1295

STATE OF UTAH
DANIEL HOFFMAN
No. 7829867-0301
June 26, 2017
LICENSED ARCHITECT

A0.10
CODE ANALYSIS

N/A
scale

1

PERMIT SET
phase / rev

2017.06.01
date

1

REScheck Software Version 4.6.4
Compliance Certificate

Project Powdercat Lots 125 - 132

Energy Code: **2015 IECC**
Location: **Ogden, Utah**
Construction Type: **Multi-family**
Project Type: **New Construction**
Orientation: **Unspecified**
Conditioned Floor Area: **16,415 ft2**
Glazing Area **20%**
Climate Zone: **5 (5557 HDD)**
Permit Date:
Permit Number:

Construction Site:
8449 E Copper Crest Rd
Eden, UT 84310

Owner/Agent:
Orr Powdercat Th Development, LLC
11180 Sunrise Valley Drive, Ste 300
Reston, VA 20191
703-289-2125

Designer/Contractor:
Studio Ma, Inc.
130 N. Central Ave #300
Phoenix, AZ 85004
602-251-3800
keil@studioma.com

Compliance: Passes using UA trade-off

Compliance: **15.7% Better Than Code** Maximum UA: **4375** Your UA: **3686**

The % Better or Worse Than Code Index reflects how close to compliance the house is based on code trade-off rules.
It DOES NOT provide an estimate of energy use or cost relative to a minimum-code home.

Envelope Assemblies

Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	U-Factor	UA
Metal Roof o/ Truss: Flat Ceiling or Scissor Truss	7,067	38.0	12.5	0.022	155
Membrane Roof (Terrace) o/ 14"D Joists: Flat Ceiling or Scissor Truss	2,255	38.0	30.0	0.016	36
Soffit: All-Wood Joist/Truss:Over Outside Air	438	38.0	0.0	0.026	11
Garage + Utility Floor/Ceiling: All-Wood Joist/Truss:Over Unconditioned Space	3,577	38.0	0.0	0.026	93
Slab on Grade: Slab-On-Grade:Heated Insulation depth: 6.0'	1,861		15.0	0.655	1219
Above Grade Walls (1-1/2" Insul): Wood Frame, 16" o.c. Orientation: Unspecified	5,370	21.0	6.5	0.040	128
Window: Wood Frame:Double Pane with Low-E Orientation: Unspecified	1,004			0.270	271
Door: Solid Orientation: Unspecified	1,177			0.400	471
Above Grade Walls (3" Insul): Wood Frame, 16" o.c. Orientation: Unspecified	13,417	21.0	12.9	0.032	339
Window: Wood Frame:Double Pane with Low-E Orientation: Unspecified	2,808			0.300	842
Retaining Walls (3" Insul): Solid Concrete or Masonry Orientation: Unspecified Wall height: 10.0' Depth below grade: 9.5' Insulation depth: 10.0'	2,962	0.0	15.0	0.041	121

Compliance Statement: The proposed building design described here is consistent with the building plans, specifications, and other calculations submitted with the permit application. The proposed building has been designed to meet the 2015 IECC requirements in RES*check* Version 4.6.4 and to comply with the mandatory requirements listed in the RES*check* Inspection Checklist.

Dan Hoffman
Name - Title

Signature

06/27/2017
Date

Project Notes:
Unit address:
8443 Lot 124
8449 Lot 125
8451 Lot 126
8455 Lot 127
8459 Lot 128
8463 Lot 129
8465 Lot 130
8469 Lot 131
8471 Lot 132
8477 Lot 133

RESc*heck* Software Version 4.6.4
Inspection Checklist

Energy Code: 2015 IECC

Requirements: 100.0% were addressed directly in the RES*check* software

Text in the "Comments/Assumptions" column is provided by the user in the REScheck Requirements screen. For each requirement, the user certifies that a code requirement will be met and how that is documented, or that an exception is being claimed. Where compliance is itemized in a separate table, a reference to that table is provided.

Section # & Req.ID	Pre-Inspection/Plan Review	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
103.1, 103.2 [PR1][1]	Construction drawings and documentation demonstrate energy code compliance for the building envelope. Thermal envelope represented on construction documents.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met. **Location on plans/spec:** a0.10
103.1, 103.2, 403.7 [PR3][1]	Construction drawings and documentation demonstrate energy code compliance for lighting and mechanical systems. Systems serving multiple dwelling units must demonstrate compliance with the IECC Commercial Provisions.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met. **Location on plans/spec:** M0.1, M0.3
302.1, 403.7 [PR2][2]	Heating and cooling equipment is sized per ACCA Manual S based on loads calculated per ACCA Manual J or other methods approved by the code official.	Heating: Btu/hr____ Cooling: Btu/hr____	Heating: Btu/hr____ Cooling: Btu/hr____	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met. **Location on plans/spec:** M0.1

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section # & Req.ID	Foundation Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
402.1.2 [FO1][1]	Slab edge insulation R-value.	R-____ ☐ Unheated ☐ Heated	R-____ ☐ Unheated ☐ Heated	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
402.1.2 [FO3][1]	Slab edge insulation depth/length.	____ ft	____ ft	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
402.1.1 [FO4][1]	Conditioned basement wall insulation R-value. Where interior insulation is used, verification may need to occur during Insulation Inspection. Not required in warm-humid locations in Climate Zone 3.	R-____ R-____	R-____ R-____	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
303.2 [FO5][1]	Conditioned basement wall insulation installed per manufacturer's instructions.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met. **Location on plans/spec:** a0.21
402.2.9 [FO6][1]	Conditioned basement wall insulation depth of burial or distance from top of wall.	____ ft	____ ft	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
303.2.1 [FO11][2]	A protective covering is installed to protect exposed exterior insulation and extends a minimum of 6 in. below grade.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met. **Location on plans/spec:** a0.21, a5.00
403.9 [FO12][2]	Snow- and ice-melting system controls installed.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met. **Location on plans/spec:** M0.3

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section # & Req.ID	Framing / Rough-In Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
402.1.1, 402.3.4 [FR1][1]	Door U-factor.	U-____	U-____	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
402.1.1, 402.3.1, 402.3.3, 402.3.6, 402.5 [FR2][1]	Glazing U-factor (area-weighted average).	U-____	U-____	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
303.1.3 [FR4][1]	U-factors of fenestration products are determined in accordance with the NFRC test procedure or taken from the default table.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met. **Location on plans/spec:** a6.10
402.4.1.1 [FR23][1]	Air barrier and thermal barrier installed per manufacturer's instructions.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met. **Location on plans/spec:** a0.20-a0.21
402.4.3 [FR20][1]	Fenestration that is not site built is listed and labeled as meeting AAMA /WDMA/CSA 101/I.S.2/A440 or has infiltration rates per NFRC 400 that do not exceed code limits.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
402.4.5 [FR16][2]	IC-rated recessed lighting fixtures sealed at housing/interior finish and labeled to indicate ≤2.0 cfm leakage at 75 Pa.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement is not applicable.
403.2.1 [FR12][1]	Supply and return ducts in attics insulated >= R-8 where duct is >= 3 inches in diameter and >= R-6 where < 3 inches. Supply and return ducts in other portions of the building insulated >= R-6 for diameter >= 3 inches and R-4.2 for < 3 inches in diameter.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met. **Location on plans/spec:** M3.0
403.3.3.5 [FR15][3]	Building cavities are not used as ducts or plenums.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
403.4 [FR17][2]	HVAC piping conveying fluids above 105 ºF or chilled fluids below 55 ºF are insulated to ≥R-3.	R-____	R-____	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met. **Location on plans/spec:** M3.0
403.4.1 [FR24][1]	Protection of insulation on HVAC piping.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met. **Location on plans/spec:** M3.0
403.5.3 [FR18][2]	Hot water pipes are insulated to ≥R-3.	R-____	R-____	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met. **Location on plans/spec:** P0.1
403.6 [FR19][2]	Automatic or gravity dampers are installed on all outdoor air intakes and exhausts.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met. **Location on plans/spec:** M0.1

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

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A0.11
ENERGY COMPLIANCE REPORT

N/A
scale

1
PERMIT SET
phase / rev

2017.06.01
date

Section # & Req.ID	Insulation Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
303.1 [IN13][2]	All installed insulation is labeled or the installed R-values provided.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
402.1.1, 402.2.6 [IN1][1]	Floor insulation R-value.	R-____ ☐ Wood ☐ Steel	R-____ ☐ Wood ☐ Steel	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
303.2, 402.2.7 [IN2][1]	Floor insulation installed per manufacturer's instructions and in substantial contact with the underside of the subfloor, or floor framing cavity insulation is in contact with the top side of sheathing, or continuous insulation is installed on the underside of floor framing and extends from the bottom to the top of all perimeter floor framing members.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met. **Location on plans/spec:** a5.03
402.1.1, 402.2.5, 402.2.6 [IN3][1]	Wall insulation R-value. If this is a mass wall with at least ½ of the wall insulation on the wall exterior, the exterior insulation requirement applies (FR10).	R-____ ☐ Wood ☐ Mass ☐ Steel	R-____ ☐ Wood ☐ Mass ☐ Steel	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
303.2 [IN4][1]	Wall insulation is installed per manufacturer's instructions.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met. **Location on plans/spec:** a0.20-a0.21

Additional Comments/Assumptions:

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

Section # & Req.ID	Final Inspection Provisions	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
402.1.1, 402.2.1, 402.2.2, 402.2.6 [FI1][1]	Ceiling insulation R-value.	R-____ ☐ Wood ☐ Steel	R-____ ☐ Wood ☐ Steel	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
303.1.1.1, 303.2 [FI2][1]	Ceiling insulation installed per manufacturer's instructions. Blown insulation marked every 300 ft².			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met. **Location on plans/spec:** a0.20, a5.04
402.2.3 [FI22][2]	Vented attics with air permeable insulation include baffle adjacent to soffit and eave vents that extends over insulation.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement is not applicable.
402.2.4 [FI3][1]	Attic access hatch and door insulation ≥R-value of the adjacent assembly.	R-____	R-____	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met. **Location on plans/spec:** There are no accessible attic spaces
402.4.1.2 [FI17][1]	Blower door test @ 50 Pa. <=5 ach in Climate Zones 1-2, and <=3 ach in Climate Zones 3-8.	ACH 50 =____	ACH 50 =____	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
402.4.2 [FI8][2]	Wood-burning fireplaces have tight fitting flue dampers and outdoor air for combustion.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met. **Location on plans/spec:** Specification section 10 30
403.2.3 [FI4][1]	Duct tightness test result of <=4 cfm/100 ft2 across the system or <=3 cfm/100 ft2 without air handler @ 25 Pa. For rough-in tests, verification may need to occur during Framing Inspection.	____ cfm/100 ft²	____ cfm/100 ft²	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met. **Location on plans/spec:** M0.3
403.3.2 [FI27][1]	Ducts are pressure tested to determine air leakage with either: Rough-in test: Total leakage measured with a pressure differential of 0.1 inch w.g. across the system including the manufacturer's air handler enclosure if installed at time of test. Postconstruction test: Total leakage measured with a pressure differential of 0.1 inch w.g. across the entire system including the manufacturer's air handler enclosure.	____ cfm/100 ft²	____ cfm/100 ft²	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met. **Location on plans/spec:** M0.3
403.3.2.1 [FI24][1]	Air handler leakage designated by manufacturer at <=2% of design air flow.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement is not applicable.
403.1.1 [FI9][2]	Programmable thermostats installed for control of primary heating and cooling systems and initially set by manufacturer to code specifications.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met. **Location on plans/spec:** M3.0
403.1.2 [FI10][2]	Heat pump thermostat installed on heat pumps.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement is not applicable.

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

Section # & Req.ID	Final Inspection Provisions	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
403.5.1 [FI11][2]	Circulating service hot water systems have automatic or accessible manual controls.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met. **Location on plans/spec:** P0.1, P0.2
403.6.1 [FI25][2]	All mechanical ventilation system fans not part of tested and listed HVAC equipment meet efficacy and air flow limits.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement is not applicable.
403.2 [FI26][2]	Hot water boilers supplying heat through one- or two-pipe heating systems have outdoor setback control to lower boiler water temperature based on outdoor temperature.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met. **Location on plans/spec:** M0.3
403.5.1.1 [FI28][2]	Heated water circulation systems have a circulation pump. The system return pipe is a dedicated return pipe or a cold water supply pipe. Gravity and thermos-syphon circulation systems are not present. Controls for circulating hot water system pumps start the pump with signal for hot water demand within the occupancy. Controls automatically turn off the pump when water is in circulation loop is at set-point temperature and no demand for hot water exists.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met. **Location on plans/spec:** M0.2
403.5.1.2 [FI29][2]	Electric heat trace systems comply with IEEE 515.1 or UL 515. Controls automatically adjust the energy input to the heat tracing to maintain the desired water temperature in the piping.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met. **Location on plans/spec:** P0.1
403.5.2 [FI30][2]	Water distribution systems that have recirculation pumps that pump water from a heated water supply pipe back to the heated water source through a cold water supply pipe have a demand recirculation water system. Pumps have controls that manage operation of the pump and limit the temperature of the water entering the cold water piping to 104°F.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement is not applicable.
403.5.4 [FI31][2]	Drain water heat recovery units tested in accordance with CSA B55.1. Potable water-side pressure loss of drain water heat recovery units < 3 psi for individual units connected to one or two showers. Potable water-side pressure loss of drain water heat recovery units < 2 psi for individual units connected to three or more showers.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement is not applicable.
404.1 [FI6][1]	75% of lamps in permanent fixtures or 75% of permanent fixtures have high efficacy lamps. Does not apply to low-voltage lighting.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met. **Location on plans/spec:** ARCH

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

Section # & Req.ID	Final Inspection Provisions	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
404.1.1 [FI23][1]	Fuel gas lighting systems have no continuous pilot light.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement is not applicable.
401.3 [FI7][2]	Compliance certificate posted.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
303.3 [FI18][3]	Manufacturer manuals for mechanical and water heating systems have been provided.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.

Additional Comments/Assumptions:

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

2015 IECC Energy Efficiency Certificate

Insulation Rating	R-Value
Above-Grade Wall	**33.90**
Below-Grade Wall	**15.00**
Floor	**38.00**
Ceiling / Roof	**50.50**
Ductwork (unconditioned spaces):	____

Glass & Door Rating	U-Factor	SHGC
Window	**0.30**	
Door	**0.40**	

Heating & Cooling Equipment	Efficiency
Heating System:_____	____
Cooling System:_____	____
Water Heater:_____	____

Name: _____ **Date:**_____

Comments

architect
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STATE OF UTAH
DANIEL HOFFMAN
No. 7829867-0301
LICENSED ARCHITECT
June 26, 2017

A0.12
ENERGY COMPLIANCE REPORT

N/A
scale

1

PERMIT SET
phase / rev

2017.06.01
date

01 GENERAL REQUIREMENTS

01 30 Administrative Requirements

PROJECT MANAGEMENT AND COORDINATION:
This project occurs within a development owned and controlled by Summit Mountain Holding Group, the Master Developer. Contractor shall coordinate with Master Developer for approval of construction mitigation plan, staging and laydown areas, cross-parcel access, temporary utilities, and snow removal on private roads.

The Contractor will be responsible for providing all labor, material, equipment, services, and transportation necessary for the construction of the Project, including engaging all jurisdictional and service providers for coordination of inspections, utility connections, and approvals.

Owner-furnished Contractor-Installed items will be managed by the Contractor. The Contractor will provide a CPM schedule indicating when all OFCI items must be received on-site for maintaining the project schedule, will provide coordination with the Work, and will handle, store, assemble, install, and connect such items, including furnishing accessories, etc. as required for serviceable and operative condition. The Contractor will coordinate with the Architect to review all fixture and utility rough-ins, openings, supports, dimensions, etc. as required for a coordinated installation of all fixtures, equipment, and OFCI items.

Contractor is solely responsible for construction schedule, including without limitation, procurement, sequencing of work, and permitting. Contractor will schedule all inspections, and obtain all certifications from local, county, or state officials as required for every element of the project requiring review and approval.

Contractor shall notify the Architect immediately if Contractor observes any part of the Construction Documents are at variance in any respect to applicable laws, statutes, building codes and regulations. If the Contractor performs Work knowing it to be in conflict with such laws, ordinances, rules and regulations then the Contractor will assume full responsibility and bear the attributable costs for correcting the Work.

Progress Meetings - Contractor will convene a regular project team meeting at a time and location convenient to all parties to review the following topics:

1. Ongoing business
2. Review of RFI log
3. Review of Submittal log
4. Field report action items
5. Overall project CPM schedule, and 3-week look-ahead schedules
6. Permit status for deferred submittal items
7. Items required by construction team to maintain schedule
8. Cost tracking, buyout, and design evolution logs

Contractor will record minutes and distribute to all parties.

Special Meetings - Contractor will also hold meetings for the following:
Preconstruction conference - prior to commencing work on the site, a full project team meeting will be held to establish and review the following:

1. Project overview
2. Schedule of Work
3. Procedures
4. Team representatives
5. Schedule of Values
6. Subcontractor list and qualifications

Pre-installation conferences - prior to commencing work on any major system, scope, or finish the Contractor will schedule a meeting with the Architect and Subcontractor (and manufacturer representative(s) when applicable), and will record minutes and distribute to all parties. At a minimum, the following scope must be reviewed:

1. Concrete formwork and placing, and below-grade waterproofing
2. Structural framing (structural steel and wood stud)
3. Building Envelope: weatherproofing, wood and metal cladding, etc.
4. Windows and exterior doors
5. Roofing
6. Sheet metal fabrications
7. Sealants and firestopping
8. Fire sprinkler system
9. Mechanical and plumbing systems
10. Finishes: gypsum board, wood floor, tile, carpet, painting, etc.

RFI AND SUBMITTAL PROCEDURES:
Submit all formal requests for information on the provided form, indicating the referenced drawing/detail and/or specification section requiring clarification. Contractor is to make good faith efforts to fully examine the documents for answers to questions prior to submitting formal RFI's. All questions should be presented as soon as possible to the Architect and Engineer for resolution - questions and associated responses may be submitted as "confirming RFI's" to maintain progress on the Work. All questions from Subcontractors must be submitted through the Contractor - no direct correspondence from Subcontractors will be addressed by the Architect or Engineer without the participation of the General Contractor.

All submittals are to be made in accordance with a submittal schedule to be prepared by the Contractor which accounts for review time, approval time, resubmittal and review, and procurement so as not to delay the project. Failure to properly submit required materials in a timely manner will not be cause for any schedule extension or additional money to the Contractor. Refer to Submittal Matrix contained herein for submittals requiring samples and mockups. Contractor is responsible for all costs associated with obtaining all sample materials and preparing assembly mockups for Architect/Owner approval so as not to delay the project.

Submit clean, original PDF documentation and shop drawings for all specified materials, assemblies, and systems. Submit material and product samples in quantities as follows: (1) for Architect review; (1) for Contractor records; (1) for Owner's Representative. Contractor is responsible for engaging qualified design/builders for all deferred submittal scope including, but not limited to, fire sprinklers, fabricated wood joists, and fireproofing and fire stopping systems, and window wall engineering. No submittals to Authorities Having Jurisdiction (AHJ) may be made by Contractor until reviewed and approved by the Architect/Engineer and found to generally conform with design documents.

01 40 Quality Requirements

REFERENCED STANDARDS:
Refer to Contract Documents for list of industry organizations and referenced standards with contact and website information. All referenced standards, data, and guidelines will be made available to the Contractor upon request. Unless specifically noted, the most current version of each standard, guideline, or reference applies.

TESTING AND LABORATORY SERVICES:
Contractor to retain an independent testing lab to perform required tests and inspections, and pay for cost of services. Contractor to furnish samples for such test and deliver to the testing agency, and collect and distribute laboratory reports to the Architect, Engineer, and Owners Representative. Re-testing required due to Contractor's failure to comply with specified requirements will be paid for by the Contractor. Refer to geotechnical report, civil drawings and General Structural Notes for list of all conditions requiring testing.

CONTRACTOR QUALITY CONTROL:
All work is to be performed by mechanics skilled the work required. Conform to the methods, standards, and accepted practices of the trade or trades involved. Minimum standards of quality shall not apply unless no other indication of quality is made in specifications or drawings. Contractor will engage manufacturer's technical representatives or field support to review critical areas of scope including weatherproofing systems, windows, and exterior doors. If retained by the Owners, Contractor will coordinate with and respond to all reports generated by an independent quality control site observer.

01 70 Closeout Requirements

CLOSEOUT PROCEDURES:
Perform final cleaning of all areas of Work prior to requesting Substantial Completion. Fully remove all marks, stains, fingerprints, soil and dirt from all finished surfaces. Clean all furnishings, fixtures, and equipment of paint, construction dust and debris,marks, or other deleterious material. Remove all temporary protective coverings and clean surfaces to like-new condition. Clean all window glass and frames to be free of dirt, streaks, or other marks. Conditions that cannot be fully cleaned and restored to like-new condition may be subject to repair or replacement.

Contractor to maintain as-built record drawings for all systems, framing, utility layout, and hidden conditions, and for all minor changes in the work due to field conditions on final record drawings to be provided by the Architect. Include all changes as per RFI's, sketches, bulletins, and field directives and provide dimensions to within one inch (1") of actual field-verified condition.

Contractor to deliver final as-built drawings, project manual, complete set of all construction meeting minutes, all RFI's, submittals, and all other documents generated for administering the Work. All documents to be reviewed by the Architect and revised as required prior to delivering to the Owner. Produce comprehensive packages for each parcel such that common products/data/warranties/operations and maintenance material are included for each individual Owner. All documentation is to be supplied in digital (PDF) format.

WARRANTY REQUIREMENTS:
The Contractor will provide a one (1) year warranty for the full project inclusive of all labor, material, installation, and weathertightness. Where manufacturer's warranty for any part, assembly, or system exceeds this duration, the manufacturer's warranty period governs.
All critical items (including loss of heating, cooling, pumps, fans, etc.) shall be serviced within a 24-hour response time. Temporary provisions for such systems will be provided by the Contractor at no additional cost to the Owner if repairs cannot be made within one subsequent 8-hour work day.

All non-critical items must be serviced to completion within a 5-business day period, unless notification in writing is provided to the Owner. Notify Owner of any delays due to shipping parts, or receiving replacement equipment, and provide a scheduled date of completion. Contractor to provide the name and contact information, including 24-hour phone number, of the designated warranty provider for all major systems, and include such information in the full project closeout documents.

03 CONCRETE

03 30 Cast In Place Concrete

Contractor shall provide mockup samples of construction components (concrete, paving, metal work, masonry, fencing, etc.) separate from the permanent work for review and acceptance by the Architect prior to the installation of any work. Mockup samples represent the accepted level of quality and are to remain undisturbed & available for reference until the end of the project.

Notify Architect and Owner's Representative a minimum of 48 hours prior to commencement of concrete operations. Allow owner's representative to observe excavations and reinforcing prior to concrete placement.

Provide electrical and irrigation sleeves under paving to all planting areas.

Foundations: excavations shall be neat to lines of footings. All loose material shall be removed from surface to receive concrete. Place foundation concrete only on clean, firm, inspected bearing material. Footings shall bear on undisturbed native soil or compacted fill. Refer to geotechnical report. Bear footings at depths indicated on plans but at depths no shallower than the local frost depth below the grade within 5 feet of the foundation.

Verify heights, slopes, edge thicknesses, and turndowns before pouring footings and slabs

Concrete flat work on grade shall bear on undisturbed native or compacted soil as identified in geotechnical report. Refer to geotechnical report for site grading, subgrade soil preparation and fill and compaction requirements. Refer to General Structural Notes (GSN) for additional requirements - where conflicts in requirements may be found between GSN and requirements noted herein, the more stringent requirements shall prevail.

Concrete mix designs:
A. Non-footing concrete shall be 3000 psi, unless otherwise noted on drawings.
B. Footing concrete shall be as per General Structural Notes
C. All concrete subject to freezing shall be provided with air-entrainment at rate recommended by geotechnical report, and/or Civil Engineer.
C. Provide concrete mix designs to Architect and Owner's Representative for review.

Concrete testing: submit prism test reports for concrete mix designs to Architect for review.

All concrete formwork shall be inspected by architect and approved prior to concrete pours. Curved formwork shall be continuous throughout the curve, without breaks or folds.
Concrete flat work shall be installed with a constant slope between two spot elevations. Changes in slope shall be accomplished in a gradual manner. All hardscape shall slope away from buildings at minimum 1/8:12 (1%) slope [maximum 1:20 (5%) slope, maximum 1:50 (2%) cross slope] and meet ada requirements.

Expansion joints in paving shall be fiber board with joint cap material. Provide a minimum 1/2-inch topping of 'sika flex' or equal expansion joint filler, color to match adjacent concrete and be approved by Owner's Representative; finish with 100% coverage of silica sand. Control joints in paving shall be saw cut (unless specifically noted otherwise), straight & true. Refer to the drawings for patterns - align w/ building and other site structures as indicated.

Concrete jointing for walls and flat work is schematic in nature and conveys the minimum design intent. Additional contraction, construction and expansion joints may be required. The contractor shall review all joints shown on plans and described in the specifications prior to construction. All requests for changes to jointing shall be submitted to the Architect for review a minimum of five (5) working days prior to construction. If additional joints are necessary to alleviate cracking or facilitate construction, they shall be provided at no additional cost. Additional joints not depicted on the drawings, but requested by the Owner, Engineer or Architect for aesthetic purposes shall be considered additional to the base contract.

Except as noted otherwise, concrete work & materials to conform w/ req's of ACI 301, 315, 318 & CRSI Manual of Standard Practice, following the structural design.

Reinforcement steel to comply w/ ASTM A706, "Standard Specification for Low-Alloy Steel Deformed & Plain Bars for Concrete Reinforcement".

CHAIRS, BOLSTERS, BAR SUPPORTS, AND SPACERS: Sized & shaped for clearance, strength & support of reinforcing during construction; Type to suit the various conditions encountered; Capable of supporting a 300-lb. concentrated load without measurable deformation of the reinforcement or supports or indentation of the supporting surface; Galvanized steel wire bar type for all work, except for work at grade where pre-cast concrete dobies may be used.

UNDERSLAB VAPOR BARRIER AND INSULATION: Provide underslab continuous vapor barrier 'Stego' 15 mil with accessory tapes and sealants for all terminations and penetrations. Provide underslab insulation equivalent to 'Dow' *Styrofoam XPS Rigid Insulation*, 3" Thick, R-15. Insulation to be installed continuously below all slabs at heated areas.

CONCRETE, ADMIXTURES AND FINISHING MATERIALS:
A. PACKAGED PRODUCTS: ASTM C387.
B. PORTLAND CEMENT: ASTM C150, mod. Type II; lt. gray; single source/type thru duration of project; American.
C. NORMAL WT AGG.: ASTM C33, coarse agg. per Table 2, size 57; 1" max. for foundations, 3/4" all others.
D. MIX WATER: Drinkable & free from deleterious materials affecting concrete integrity and/or finish.
E. AIR ENTRAINING ADMIXTURES: ASTM C260.
F. ADMIXTURES FOR MAINTAINING WORKABILITY AND SET CHARACTERISTICS: ASTM C494; Type required by placing procedures & wind speed ambient temperature. Calcium chloride, thiocyanurates or admixtures containing more than 0.05% chloride ions (the quantity found in ordinary drinking water) are not permitted.

CONCRETE MIXES, MIXING & DELIVERY OF CONCRETE: All concrete shall be ready-mixed in accordance w/ ASTM C94, "Standard Specification for Ready-Mixed Concrete." All concrete shall be of homogenous structure which when hardened, will have the required strength, appearance & durability. Mix, dispense, & use concrete admixtures in accordance w/ their manufacturer's recommendations & application instructions, & ACI 212. Concrete durability/water- cement ratio: ACI 301, Section 3.4. All concrete UNO, 2500 PSI minimum. Slabs on grade 3000 PSI. Follow local methods for extended travel and extreme temperature conditions - Contractor shall make provisions for rejected loads in compliance with all environmental requirements and in coordination with Master Developer.

REINFORCING: Place reinforcing in accordance w/ the structural design, in accordance w/ ACI 318, CRSI 63 AND CRSI 65, properly supported & secured against displacement. Set reinforcement on chairs for proper clearance, except that concrete block supports may be used in earth trenches.

PLACING AND FINISHING CONCRETE: ACI 304, supplemented by ACI 302. Leave formed exposed concrete surfaces w/ smooth, unblemished, form finish. Finish concrete floor surfaces in accordance w/ ACI 304 & ACI 302.

A. INTERIOR: Standard gray, clear sealed. Sawcut control joints, w/ 1/4" edging at slab/turndown perimeter.
B. EXTERIOR @ BUILDING: Standard gray with air entrainment and with 'Grace' 03 Topcast finish, or equivalent; provide sawcut control joints.
C. EXTERIOR @ SIDEWALKS: Standard gray with air entrainment and light broom finish, and sawcut control joints.

CURING: Any material and/or method permitted by ACI 302 except that black plastic sheeting may not be used under any circumstance. Curing compounds shall be compatible w/ & shall not impair adhesion of subsequent finishes.

SEALER: Provide penetrating clear sealer on all exposed concrete slab surfaces by 'Cohills', or equivalent.

EPOXY ANCHORING ADHESIVES: 2-component high modulus, 100% solids epoxy gel adhesive, ASTM C-881 compliant.

SIDEWALKS, ON SITE	CONCRETE, STD GRAY, WITH LIGHT BROOM FINISH.
SIDEWALKS, OFF SITE	MATCH EXISTING / ADJACENT. REF. CIVIL
SLAB ON GRADE	CONCRETE - STD GRAY, TROWELED FINISH - REF GSN.

05 METALS

05 10 Structural Metal Framing

Refer to General Structural Notes; unless noted otherwise, the following minimum requirements shall apply. All structural steel members (shapes, plates & bars) to comply w/ ASTM A36, Fy=36,000 psi. All reinforcing steel to be ASTM A615, Grade 60, detailed, fabricated & erected in accordance w/ ACI318, latest edition.

Fasteners to comply w/ ASTM A153 & hot-dip galvanized for exterior use.
A. LAG BOLTS: FS FF-B-56L, Square head type
B. STANDARD BOLTS: ASTM A307, 3/4" dia u.n.o., Grade A, regular hexagon head
C. PLAIN WASHERS: FS FF-W-92, Round, general assembly grade carbon steel
D. STANDARD NUTS: ASTM A563
E. MASONRY ANCHORING DEVICES: Expansion shield type; FS FF-S-325
F. WOOD SCREWS: FS FF-S-111, flat head, carbon steel
G. POWDER DRIVEN: 'Simpson' Type; .300 Headed fasteners w/ 1" metal washers, PDPWL-300 (3" long)

Welding materials to comply w/ AWS A5.0, E70 Series, low hydrogen type for shielded metal-arc welding

All steel to be shop-primed w/ modified-alkyd, rust-inhibitive primer.

Fabricate in accordance w/ AISC Specification for the Design, Fabrication & Erection of Structural Steel for Buildings. Weld in conformance w/ AWS D1.1. Prepare all surfaces in accordance w/ Steel SSPC Painting Manual, Volume 1, "Good Painting Practice" & Volume 2, "Systems Specifications", System SP-3, followed by a uniform, 2.5-dry mil thick coating of brush or spray-applied primer in accordance w/ mfr's recommendations & application instructions.

Erect per AISC specification. Install high strength bolts as bearing type connections w/ threads included in shear plane (Type N connections) using modified turn-of-the-nut method, load indicator washers, or torque control bolt method, at contractor's option - refer to GSN for additional requirements.

Fabricate all steel exposed to view in accordance with AESS standards. Special care shall be taken with all detailing, fabrication, and installation for exposed steel members, which shall follow AISC requirements for AESS. Welds shall be continuous, of a uniform size and profile, and contoured, blended, and ground smooth; connections shall be provided with minimal tolerances equal to half the normal tolerance as specified in the Code of Standard Practice Section 10; field welding aids shall be removed; uniform gaps of 1/8" at coping and blocking, and joint gaps. Clean all surfaces to be painted and finished; remove loose rust, loose mill scale, and spatter, slag, or flux deposits. Prepare in accordance with SSPC-SP 6 (commercial blast cleaning) for exterior: polyurethane finish coat with an epoxy intermediate coat and zinc rich primer; interior: epoxy coat with an epoxy or zinc rich primer. Prior to all steel fabrication, provide sample of all anticipated exposed-to-view joints, welds, and finishes for benchmark approval.

06 WOOD, PLASTICS, & COMPOSITES

06 05 Common Work for Wood

Provide wood blocking/backing within framed walls at all equipment and fixture locations capable of supporting the weight of the affixed item(s). Use no less than 1/2 inch plywood or 2x6 lumber as applicable for each condition.

Provide wood grounds, sleepers, blocking, and nailers as indicated, or where required for attaching other work. Form to shapes indicated and cut as required for true line and level of attached work. Coordinate locations with other work involved. Recess bolts and fasteners flush with surfaces unless noted otherwise. Provide fire-retardant treated wood where required; provide as wood-preservative treated lumber where installed in contact with concrete or installed outside of building envelope, and provide flexible flashing membrane were preservative treated wood is in contact with metal. Remove temporary grounds when no longer required.

06 10 Rough Carpentry

Provide all materials, labor, equipment & services necessary to furnish & install:
A. Structural & non-structural wall & roof framing
B. Blocking for roofing system, related metal flashings & roof mounted equipment
C. Insulation stops
D. Concealed blocking (behind finished walls) for support of toilet & bath accessories, door hardware, wall supported fixtures, handrails, equipment, & cabinetry.
E. Straight bolts, stock rough hardware & framing accessories for carpentry work
F. All other items required for a complete framing support system.
G. Sound deadening board.

MATERIALS:
A. LUMBER: PS-20; WWPA Certified or WCLB Grade stamped, D.Fir/Larch No. 2, S-Dry (19%). Wall studs to be D.Fir/Larch stud grade or better. Pressure preservative treated w/ a National Evaluation Services report number will be required of all materials in contact w/ concrete & masonry surfaces & all roof carpentry items.
B. PLYWOOD: PS-1; APA graded per dimensions & span direction indicated on the drawings; Plywood w/ any portion exposed to the exterior shall have an exterior glue line (type EXT). Install w/ face grain perpendicular to supports unless specifically shown otherwise & w/ all panel edges supported or blocked. Do not substitute OSB or particle board for plywood.
C. NAILS, SPIKES, & STAPLES: ASTM A153 hot-dip galvanized for use at building exterior, high humidity locations & at treated wood, plain finish elsewhere; FS FF-N-105; in general, use 8-d or larger nails for 1" thick lumber & for toe-nailing 2" thick lumber; use 16-d or larger nails for 2" thick lumber.
D. WOOD CONNECTORS: All lumber connectors specified as "Simpson" type to be manufactured by "Simpson Strong-Tie Company, Inc."
E. BOLTS, NUTS, WASHERS, LAGS, SCREWS, PINS, FASTENERS: Refer to Structural Steel.
F. FRAMING ANCHORS: ICBO recognized; type, size & profile to suit application; galvanized finish; Simpson Strong Tie Connectors; Simpson Strong Tie Company, Inc.

INSTALLATION:
Erect all members square, plumb, level, free of distortion or defects, in true alignment w/ one another & w/ adjacent work, securely anchored to substrate; maintain dimensional tolerances & alignment w/ adjacent work. Finish surfaces shall provide a uniform appearance & be free from visual imperfections when exposed to view. Provide suitable anchors & fasteners for securing items to in-place construction as required by recognized standard or code. Secure framing members to the building structure using fastening anchors of sufficient strength to provide required safety factor. Comply w/ minimum requirements for nailing as scheduled in the Building Code, uno. Allow 1/16" space at panel end joints, 1/8" at panel edge joints. Where additional information is required, refer to the American Wood Council Publication WCD #1, Details for Conventional Wood Frame Construction. Publication is available at no cost at http://www.awc.org/pdf/WCD1-300.pdf. Install sound deadening board in accordance w/ manufacturer's recommendations & installation instructions. Cut, drill & fit as required for installation of miscellaneous items including internal wall blocking, nailers & grounds for attachment of finish materials, & roof carpentry such as insulation stops & cants. Allowable installation tolerances: Maximum deviation from true alignment, 1/2". Apply the most stringent of conflicting requirements.

WOOD NAILING SCHEDULE: Refer to General Structural Notes

06 16 Sheathing

WOOD STRUCTURAL PANEL SHEATHING	APA-RATED PLYWOOD SHEATHING - REF. STRUCT. Provide exterior rated sheathing for all exterior conditions and where potentially exposed to moisture, or in contact with concrete.
FIBERGLASS-MAT FACED GYPSUM BOARD	'USG' *SECUROCK GLASS-MAT EXTENDED EXPOSURE* (REGULAR, OR FIRECODE X, AS REQ'D), OR AS PER STRUCTURAL. INSTALL AS PER GA-253 & ASTM C1280, USING TYPE W SCREWS AS PER ASTM C1002. FOLLOW ALL MFR INSTALLATION RECOMMENDATIONS.
FIRE-RETARDANT TREATED PLYWOOD	INTERIOR: 'HOOVER' *PYRO-GUARD* - MEETS ASTM E-84, D-3201; INSTALL AS PER ICC-ESR-1791. EXTERIOR: 'HOOVER' *EXTERIOR FIRE-X* - MEETS ASTM E-84, D-2898; REFER TO MFR STRENGTH TABLES FOR ADJUSTMENTS TO SPAN RATING AND LOADING.

06 20 Finish Carpentry

The work includes all materials, labor, equipment & services necessary to furnish & install site fabricated finish carpentry, shop-fabricated millwork, doors, related items, hardware, attachment accessories, as well as any wood furring, blocking, shims, &/or hanging strips for installing woodwork items (unless concealed within other construction before woodwork installation).

SAMPLES FOR VERIFICATION: Veneer flitches and hardwood lumber to be provided prior to manufacturing panel products. Veneer-faced panel products with, or for, transparent finish, 8" x 10". Include at least one face-veneer seam & finish as specified.

KITCHEN CABINETRY	AWI CUSTOM GRADE MODULAR BASE CABINETS w/ LOCALLY FABRICATED DOOR & DRAWER FRONTS, AND MATCHING END PANELS & TOE KICKS. SPECIES: WHITE OAK, QUARTER SAWN w/ ROTATED GRAIN AS PER ARCHITECT'S REFERENCE SAMPLE. ACCEPTABLE ALTERNATE DOOR/DRAWER FRONT MANUFACTURERS: 'REFORM' *BIG* SERIES w/ CUSTOM HANDLES (NOT BY 'REFORM') IN WHITE OAK VENEER.
COUNTERS	'CAESARSTONE' 3/4" THK. QUARTZ COUNTERTOPS - SQUARE EDGE DETAIL AND EASED EDGES. COLOR: #4003 *SLEEK CONCRETE*. FINISH: HONED.
BATHROOMS	TO MATCH KITCHEN CABINETRY
BASE BOARD	PAINT GRADE HARDWOOD BASE (CLEAR GRADE, NO KNOTS PERMITTED), PIGMENTED LACQUER PAINTED FINISH TO MATCH WALL FINISH ABOVE - SURFACE MOUNT o/ WALL.
DOOR CASING	PAINT GRADE HARDWOOD IN SQUARE EDGE PROFILES AND DIMENSIONS AS INDICATED w/ LIGHTLY EASED EDGES/CORNERS.
GUARDRAIL WOOD PANELING	'ROSEBURG' *SKYPLY* WOOD VENEER HARDWOOD PLYWOOD WALL PANELING ON COMBINATION FIBER CORE (CFC), WHITE OAK, QUARTER SAWN, SLIP MATCHED. FINISH: SHOP-APPLIED UV-CURED CLEAR TOPCOAT EDGEBANDING: 1/8" THICK x FINISHED WIDTH OF PANEL. FASTENERS: AIR/POWER FINISH (BRAD) NAILER
INTERIOR WOOD WALL PANELING	PROVIDE PANELING TO MATCH KITCHEN CABINETRY; PROVIDE HARDWOOD EDGE BANDING AT EXPOSED ENDS OF FLOORING TO MATCH FACE VENEER.

COORDINATION:
Coordinate sizes & locations of framing, blocking, furring, reinforcements, & other related units of Work specified in other Sections to ensure that interior architectural woodwork can be supported & installed as indicated.
Coordinate wood door veneers to match wood paneling (sequence matched w/ adjacent panels).

MATERIALS AND COMPONENTS:
Grade all lumber materials in conformance w/ AWI-100, & all panel products in conformance w/ AWI-200; for the specified grade.

MEDIUM DENSITY FIBERBOARD: Medite II as manufactured by Roseburg, Dillard, OR, 800-245-1115 www.roseburg.com. Provide Medex in lieu of Medite II at all wet areas or within 2 feet of any sink or source of water.

NAILS: Size & type to suit application; non-staining, non-corrosive at moist, high-humidity areas. Nails used in finish carpentry work will be finish type, nail set & filled. Screws shall be flat head, polished type, set.

BOLTS, NUTS, WASHERS, LAGS, PINS & SCREWS: Size & type to suit application; mill finish where concealed, polished, flat head at semi-concealed & where exposed to view.

ADHESIVE: Type recommended by fabricator to suit application.

HARDWARE: Provide full extension drawer glides and European-style self-closing hinges all with soft-close feature as manufactured by Blum with 'Bluemotion', or equivalent. Provide handles as per 'Hafele' stainless steel cabinet knob in matt finish.

CABINET DOOR BUMPERS: 1/4-inch dia., polyurethane, clear, self-adhering. 'Hafele' 356.25.400, or equal.

FABRICATION:
Shop-fabricate, finish & fit all millwork in accordance w/ AWI Quality Standards for the specified grade.
A. MILLWORK
PIGMENTED LACQUER: Pigmented lacquer o/ MDF or hardwood. Fabricate architectural woodwork in conformance with Premium Grade Standards in accordance with applicable standard.
CLEAR FINISH: Transparent stain and finish 'Ciranova' *Hardwaxoil Magic* finish.
COUNTERTOPS: Fabricated countertops, with back- and side- splashes where shown, & scribe for fitting to wall.
When necessary to cut and fit on site, provide materials with ample allowance for cutting. Provide trim for scribing and site cutting.
Apply in full uninterrupted sheets consistent with manufactured sizes. Fit corners and joints hairline; secure with blind attachment. Slightly bevel arrises. Locate counter butt joints minimum 2 feet from sink cut-outs.
Provide cutouts for appliances, outlet boxes, fixtures and fittings. Verify locations of cutouts from on-site dimensions. Seal all surfaces including cut edges.

INSTALLATION: Install in accordance w/ AWI Quality Standards, Section 1700 - Installation of Woodwork, Custom Grade. In the absence of controlling standards, work will be installed in accordance w/ manufacturer's instructions. Set the work accurately in location, alignment & elevation, plumb, level, straight, square, true to line & free of distortion or defects & securely anchored; maintain dimensional tolerances measured from established lines & levels. Finish surfaces shall provide a uniform appearance & be free from visual imperfections when exposed to view. Allowable tolerances: Maximum permissible deviation from true alignment, 1/8-inch.

06 20 13 Exterior Finish Carpentry

The work includes all materials, labor, equipment & services necessary to furnish & install exterior wood siding as shown on the drawings and specified.

SUBMITTALS: Product data, verification samples, manufacturer's certificates and maintenance instructions that include recommendations for periodic treatment of sealer.

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16-101

sma project name
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STATE OF UTAH
DANIEL HOFFMAN
No. 7829867-0301
June 1, 2017
LICENSED ARCHITECT

A0.20
SPECIFICATIONS

scale

PERMIT SET
phase / rev

2017.06.01
date

MATERIALS:
WOOD SIDING:
Manufacturer: 'Kebony Norge AS'
Supplier:Pine River Group, 812 S. Riverside Dr., St. Clair, MI 48079, 810-329-4789. Contact: Joanna Olmstead.
Siding: Terrace Board *Smooth* #K2102SYP 22mm x 142mm (± 7/8" x 5 9/16"). Note: provide wider widths as required to avoid awkwardly sized (e.g. - less than 3" in width) cut pieces @ corners, intersections, tapers, etc.
Profile: Grooved, typ at building cladding; Ungrooved where front & back face are exposed.
Trim / Fence Boards: Smooth Rectangular Cladding 21mm x 148mm
Species: Clear Southern Yellow Pine
Lengths: Lengths as required - ref. drawings
Finish: Clear sealed
Underlayment: see section 07 25

Flame Spread: 65 Smoke Developed: 300 / ASTM E84 "Class B" / (QAI report no. RJ3692-1, dated Jan. 7, 2015)

FASTENERS: For wood cladding: stainless steel trim head screws. For furring strips: stainless steel countersunk wood screws or sms as required, or self-drilling/self-tapping screws at stl posts.

SEALER: Deep penetrating waterproof sealer with transparent oxides for UV protection; mildew & algae resistant. Basis of design is 'Armstrong-Clark' Transparent Wood Stain, Natural Tone.

INSTALLATION:
Do not begin installation until substrates have been properly prepared, and weather barrier system has been installed. If substrate preparation and weather barrier system installation is the responsibility of another installer, notify Architect of unsatisfactory conditions before proceeding.

Install sealed wood cladding as an insulated, ventilated rain-screen system by attaching over continuous pressure-treated 2x wood furring strips. Paint all visible furring strips flat black prior to installing cladding. Install boards with the pith side toward the building (hidden from view). At terrace walls, attach furring to terrace wall posts with self-drilling, self-tapping sstl screws. Wood furring strips are to be installed horizontally between stl posts. Provide EPDM shims between post and furring strips as required to maintain a straight and plumb installation. At foundation walls, attach furring o/ concrete w/ isolation material (Grade D building paper, or equivalent) using 'Tap-con' fasteners or equivalent. Secure siding to furring strips in pre-drilled holes, (2) fasteners per board, per support - evenly and consistently space fasteners. Fasteners shall be of sufficient length to penetrate furring strips not less than 1-1/4". Maintain ±1/2" clear airspace between adjacent boards for ventilation purposes. Maintain 1/4" clear airspace between ends. Ends exposed due to field cuts shall be sealed.

Tolerances: Surfaces: 1/8" in 10'-0" in all directions. Lippage: 1/8" max Maximum variation of joint width: 1/16".

Clean using mild detergents or special deck cleaners. Use fresh water and a brush; do not use a pressure washer, which will damage the surface.

Protect installed products until completion of Project. Touch-up, repair or replace damaged products before Substantial Completion. Provide extra material for repairs at a rate of not less than 5% of total installed material per unit to be turned over to Owner upon completion.

07 THERMAL AND MOISTURE PROTECTION

07 13 Sheet Waterproofing

BELOW GRADE WATERPROOFING	'WR MEADOWS' *MEL-ROL LM* w/ 10MIL *PERMINATOR* AND *MEL-DRAIN*. EXTEND TO TOP OF FOOTING. INSTALL WITH MFR RECOMMENDED SEALANTS AND ACCESSORIES FOR A COMPLETE AND WATERTIGHT INSTALLATION. PROVIDE CONTINUOUS PERFORATED FOUNDATION DRAIN PIPE WRAPPED IN GEOTEXTILE FILTER FABRIC (see Section 22 - Plumbing); 3/4" CLEAN STONE OR EQUIVALENT GRAVEL BED - REF. CIVIL FOR PIPE TERMINATION.

07 20 Insulation

THERMAL INSULATION	'JOHNS MANVILLE' *FORMALDEHYDE FREE KRAFT FACED FIBERGLASS BATT INSULATION*. FLAME SPREAD < 25; SMOKE DEVELOPED < 50. INSULATION SHALL COMPLETELY FILL STUD CAVITY. PROVIDE MIN. R-38 (13" THK) AT ROOF/CEILING & EXPOSED FLOOR/ CEILINGS; R-21 (5.5" THK) AT EXTERIOR WALLS.
ACOUSTIC INSULATION	'JOHNS MANVILLE' *UNFACED FORMALDEHYDE FREE FIBERGLASS BATT INSULATION*. FLAME SPREAD < 25; SMOKE DEVELOPED <50. FILL STUD (3.5" & 5.5") AND FLOOR CAVITIES (13") COMPLETELY.
MINERAL WOOL INSULATION	'OWENS CORNING' *THERMAFIBER RAINBARRIER HD* MINERAL WOOL; THICKNESS AS PER WALL TYPE (1.5" MIN. (R-6.5), 3" MAX. (R-12.9)).
EXPANDING FOAM INSULATION	'DOW' *GREAT STUFF Window & Door Insulating Foam Sealant*; APPLY AT ALL WINDOW/DOOR/FRAMING GAPS AS PER MANUFACTURER REQ'S.
RIGID INSULATION - ABOVE ROOF	'DOW' *STYROFOAM XPS RIGID INSULATION*, 2-1/2" THICK, (R-12.5).
RIGID INSULATION - BELOW GRADE o/ EXPOSED CONCRETE FOUNDATION WALLS	'T-CLEAR' *WALLGUARD* 3" THK (R-15) CONCRETE PANEL-FACED INSULATED PERIMETER WALL PANEL.
RIGID INSULATION - BELOW GRADE - CONCEALED FROM VIEW	'DOW' *STYROFOAM XPS RIGID INSULATION*, 3" THICK, R-15.
SPRAY-APPLIED POLYURETHANE FOAM INSULATION TO FILL CAVITY, OR DEPTH AS INDICATED	'JOHNS-MANVILLE' *CORBOND III*, THK. AS SPECIFIED (R-6.25 PER INCH).

07 24 DEFS

SOFFITS AND WEATHER-PROTECTED WALL LOCATIONS	'STO' *StoQuick Gold Soffit*, DIRECT-APPLIED EXTERIOR FINISH SYSTEM o/ WEATHER RESISTANT BARRIER o/ 1/2" EXTERIOR RATED GYPSUM SHEATHING. PROVIDE w/ FLASHINGS, WEEP SCREEDS, SQUARE-CORNER REINFORCING, AND TERMINATIONS AS REQUIRED. BASE COAT: Manufacturer's trowel-applied water resistant base and bond coat; provide fiberglass tape at all joints in substrates, and at changes in plane, and finish base coat to an even, smooth finish. TOP COAT: Manufacturer's top coat finish with integral color to match interior ceilings FINISH: Manufacturer's smooth texture 'Limestone', or equivalent smooth trowel finish, with no perceptible aggregate. Install gypsum sheathing as per ASTM C1177, and joints compliant with ASTM D1784 cell classification 13244C.

07 25 Weather Barriers

SYSTEM DESCRIPTION:
Supply labor, materials and equipment for a fully adhered water-resistive vapor permeable air barrier membrane system behind all exterior wall cladding.
Complete Work as shown on the Drawings and specified herein to bridge gaps and seal the water-resistive vapor permeable air barrier membrane against air leakage and water intrusion including, without limitation, the following locations:

- Connections of the walls to the roof membrane
- Connections of the walls to the foundations
- Seismic and expansion joints
- Openings and penetrations of window and door frames, store front, curtain wall, mechanical louvers
- Piping, conduit, duct and similar penetrations
- Masonry ties, screws, bolts and similar penetrations
- Any and all other air leakage pathways in the building envelope

Install primary water-resistive vapor permeable air barrier, flashing, lap seam tapes, sill pan and ventilation strip accessories.

MATERIALS:
Note - for weather barrier at metal roofing, refer to section 07 42.
MANUFACTURER: VaproShield LLC., Gig Harbor, WA, 866-731-7663, info@VaproShield.com, www.vaproshield.com.
WATER-RESISTIVE VAPOR PERMEABLE AIR BARRIER MATERIALS: Primary self-adhered air barrier sheet membrane shall be RevealShield SA Self-Adhered Water-Resistive Vapor Permeable Air Barrier Sheet, Black in color.
WATER-RESISTIVE VAPOR PERMEABLE TRANSITION AND FLASHING MEMBRANE: Self-adhered air barrier transition and flashing membrane shall be RevealFlashing SA
FLASHING FOR ROUGH OPENINGS: Window and door flashing shall be VaproLiqui-Flash, a liquid-applied vapor permeable air barrier flashing material.
SEALANT (for penetrations): Dow 758 or VaproLiqui-Flash
SMALL PENETRATION FLASHING: 'Quickflask Products, Las Vegas, NV, (702) 614-6100, QFinfo@quickflashproducts.com, www.quickflashproducts.com. Install prior to installation of weather resistant barrier.
EXTERIOR WOOD FURRING: At all exposed furring on horizontal surfaces provide 'Grace' *Vycor Deck Protector* on all exposed sides/ends.

INSTALLATION:
GENERAL: Verify that surfaces and conditions are ready. Notify Architect of any discrepancies. All surfaces must be dry, sound, clean and free of oil, grease, dirt, excess mortar or other contaminants. Fill voids and gaps in substrate greater than ¼ inch in width to provide an even surface. Mechanical fasteners used to secure sheathing boards shall be set flush with sheathing and fastened into solid backing.

NOTE - GC to engage weather barrier manufacturer's technical representative to review and certify weather barrier installation prior to commencing cladding installation. Provide report(s) from manufacturer concerning all areas observed, deficiencies noted, and actions taken.

COORDINATION: Self-adhered vapor permeable air barrier sheets may be installed vertically or horizontally over the outside face of exterior sheathing board or substrate. Complete detail work around corners, wall openings, building transitions and penetrations prior to field applications. Install self-adhered vapor permeable air barrier sheet over the outside face of exterior sheathing board or substrate, measure and pre-cut into manageable sized sheets to suit the application conditions. Install self-adhered vapor permeable air barrier sheet complete and continuous to substrate in a sequential overlapping weatherboard method starting at bottom or base of wall and working up. Stagger all end lap seams. Roll installed membrane with roller to ensure positive contact and adhesion with substrate. No wrinkles, bubbles, or other surface defect to remain in weather barrier. Provide primer o/ substrate as required or recommended by manufacturer's representative to ensure proper adhesion.

BUILDING TRANSITIONS: Tie-in to structural beams, columns, floor slabs and intermittent floors, parapet curbs, foundation walls, roofing systems and at the interface of dissimilar materials with self-adhering air barrier transition and flashing membrane. Align and position self-adhered air barrier transition and flashing membrane, remove protective film and press firmly into place. Provide minimum 3 inch lap onto substrates. Ensure minimum 3 inch overlap at side and end laps of membrane. Roll membrane and lap seams with roller to ensure positive contact and adhesion. At inside and outside corners provide minimum 12 inch off-set of vertical seams.

VERTICAL APPLICATIONS: For vertical applications, align sheets with an 'inside' or 'outside' corner to avoid wrinkles and mis-alignment of subsequent applications. Measure and pre-cut into manageable sized self-adhered sheets to suit the application conditions. Hang self-adhered sheets over wall and extend down to lowest point of wall. Allow for excess material at bottom of wall to accommodate tie-ins and connections to adjacent surfaces. Align and position self-adhered membrane, remove release film and press firmly into place. Provide minimum 3 inch overlap at side and end laps of membrane. Roll membrane and lap seams with roller to ensure contact and adhesion. Continue to remove release film and apply pressure to ensure positive contact onto wall substrate. Install subsequent sheets of self-adhered vapor permeable air barrier sheets in overlapping weatherboard format. Ensure sheets lay smooth and flat to surfaces. Roll membrane and lap seams with roller to ensure contact and adhesion.

HORIZONTAL APPLICATIONS: For horizontal applications, align sheets and begin installation of water-resistive weather barrier at bottom or lowest point of wall. To avoid wrinkles and mis-alignment of subsequent applications it is recommended to pre-mark or "snap" a level line to work from. Measure and pre-cut into manageable sized sheets to suit the application conditions. Allow for excess material at bottom of wall to accommodate tie-ins and connections to adjacent surfaces. Align and position self-adhered membrane, remove release film and press firmly into place. Provide minimum 3 inch overlap at all side and end laps of membrane. Roll membrane and lap seams with roller to ensure contact and adhesion. Continue to remove release film and apply pressure to ensure positive contact onto wall substrate. Install subsequent sheets of self-adhered vapor permeable air barrier sheets in overlapping weatherboard format. Ensure sheets lay smooth and flat to surfaces. Roll membrane and lap seams with roller to ensure contact and adhesion.

07 42 Metal Wall Panels and Roofing

INSTALLATION:
Roof panels, flashing, and sheet metal fabrications to comply with design and installation standards of applicable details as per SMACNA and the NRCA. Refer to drawings for details - extraordinary requirements may be identified due to extreme climate and/or performance conditions.

METAL WALL PANELS	'CORTEN' STEEL PANELS 4-WAY FLAT SEAMED: 'WESTERN STATES' A606 STEEL. FABRICATE TO DIMENSIONS AND CONFIGURATIONS AS SHOWN IN DRAWINGS. WALL PANELS TO BE 4-WAY FLAT SEAM PANEL w/ CONCEALED SSTL CLIPS & FASTENERS. PROVIDE w/ FLASHINGS AND TRIMS FOR A COMPLETE AND WEATHERTIGHT INSTALLATION - REF 07 25 FOR WEATHER BARRIER REQ'S; REF 07 20 FOR INSULATION REQ'S - PROVIDE MINERAL WOOL AS SCHEDULED. FIRECODE, AS REQ'D), OR AS PER STRUCT.
STANDING SEAM METAL ROOF	STANDING SEAM METAL ROOFING w/ ONE-PIECE CONCEALED SSTL CLIPS, FASTENERS, AND CONTINUOUSLY SEALED SEAMS: 'WESTERN STATES' *SS675* STANDING SEAM 16"W A606 STEEL PANEL w/ ALL ACCESSORIES & MATCHING FASCIA, RIDGE, FLASHINGS, AND TRIMS FOR A COMPLETE AND WEATHERTIGHT INSTALLATION w/ 20-YEAR NO DOLLAR LIMIT WARRANTY.
BREATHABLE UNDERLAYMENT	'BONAR' *ENKAMAT ASV 7010*
SELF-ADHERING POLYMER MODIFIED BITUMINOUS SHEET	'GRACE' *VYCOR ULTRA* AT ROOF ONLY (REFER TO SECTION 07 25 FOR WALL PANEL CONDITIONS)
SNOW GUARDS	'ALPINE' *ASG4025*, POWDER COATED (COLOR TO BE SELECTED BY ARCHITECT)

07 60 Flashing and Sheet Metal

MATERIALS & COMPONENTS:
SHEET STOCK: Hot-rolled; ASTM A653 Grade B, structural quality; minimum 22-gage. Concealed flashings and cleats stainless steel; exposed flashings in finish to match metal wall panels, unless noted otherwise.
FASTENERS: Concealed hook strip or clip type; of same material as flashing; of sufficient strength to perform their intended function; capable of supporting system & superimposed design loads & of allowing adjustment prior to being permanently fastened in place; type recommended by system manufacturer to suit location & application.
ANCHORAGE DEVICES: Cleats, type & gage same as sheets being anchored, unless noted otherwise; 2" wide, punched for 2" anchor spacing; anchors of type recommended by fabricator for installation conditions & loads.
SOLDER & FLUX: ASTM B32; type suitable for metal being soldered.
PLASTIC CEMENT: FS SS-C-153, type I, asbestos free; compatible w/ roofing membrane.

FABRICATION:
Fabricate flashing in accordance w/ roofing manufacturer's recommendations, NRCA recommendations, & applicable SMACNA detail. Form each section square, true & accurate to dimensions, free from distortion (wave, warp or buckle) & other defects detracting from appearance or detrimental to performance. Hem exposed edges 1/2" on the underside. Unless shown otherwise in the drawings, form exposed flashing w/ a 45 degree projection, minimum 3/8" long as a drip edge. Form flashing at the end of a run in to a three-dimensional configuration to divert water to the outside of the system. Form all seams as soldered lap seams. Solder all joints & connections, except expansion joints.

INSTALLATION:
Perform the work in accordance w/ roofing manufacturer's recommendations & installation instructions, supplemented by NRCA Roofing & Waterproofing Manual, & SMACNA Architectural Sheet Metal Manual. Comply w/ manufacturer's product catalog & specifications. Erect plumb, level & in proper plane without bulges, warps, buckles, waves, fastening stresses, or distortion; allow for expansion & contraction. Cope or flange intersections to fit accurately & solder together to form rigid inside & outside corners. Burn lead joints. Form, fabricate & install all work to perform satisfactorily, to withstand thermal shock & vibration, all conditions of weather, & to prevent penetration of dust, water & weather.

07 76 Roof Pavers

PEDESTAL SYSTEM w/ WOOD TILES: 'BISON' *VERSADJUST* w/STANDARD 2'x2' x 1.75" THK IPE WOOD TILES - SEMI CUSTOM (MODIFY FOR THERMAL TRANSFER PER SNOWMELT SYSTEM), SMOOTH SURFACE, RUNNING BOND PATTERN; PROVIDE ALL REQUIRED MFR ACCESSORIES, INCLUDING FLOATING INSULATION BASE, SLOPE ADJUSTMENT PLATE, ETC. FOR A COMPLETE INSTALLATION.

SNOWMELT HEATING SYSTEM: 'THERMA-HEXX' THERMAPAVER HYDRONIC SNOWMELT o/ 1.5" EPS RIGID FOAM INSULATION; NESTED BETWEEN U/S PAVERS AND TOP OF PEDESTALS - REF MECHANICAL FOR ADDITIONAL INFORMATION.

ROOFING ASSEMBLY: 'HYDROTECH' *ULTIMATE ASSEMBLY* w/ MIN. 6" THK (R-30) TAPERED INSULATION - 1/4" PER FOOT SLOPE 'DOW' *PLAZAMATE XPS INSULATION* 2.2PCF DENSITY, MIN. 100 PSI COMPRESSIVE STRENGTH, w/ RAIN-CHANNELS ALL 4 BOTTOM EDGES.

08 DOORS AND WINDOWS

08 14 Wood Doors and Frames

Refer to plans for door designations - refer to door schedule for door types and sizes. Contractor to submit full door and hardware schedule for each unit type; indicate door numbering, frame type and size(s), door type and size(s), and hardware for Architect review prior to procurement and fabrication.

CUSTOM GARAGE DOORS:
Custom metal-clad exterior rated wood sectional garage door with track, hardware, and accessories to enable flush condition with exterior wall finish - ref details. Furnish complete with all components for a fully operational and weathertight installation. Sectional panel construction consists of rigid foam insulation within stile and rail frame (rabbeted top and bottom edges), exterior grade plywood sheathing, and fixed transom panel to match door panel. Metal cladding to be site-applied to match and align with adjacent wall cladding. Provide remote keypad for exterior access, motorized operator, overhead light, remote control(s), and safety photo-eye interlocks for emergency stop and reverse. Basis of design is 'Designer Doors', contact Lauri Wilson (715) 426-8932, lwilson@designerdoors.com.

EXTERIOR SOLID CORE WOOD DOORS:
Custom wood swing entry door with matching sidelite panel, transom, and hardwood jambs supplied complete with all weatherstripping, trim, hardware, threshold, etc. as required for a complete and weathertight installation. Exterior rated materials and construction with custom wood cladding - refer to drawings for additional detailed requirements. Basis of design is 'Designer Doors', contact Lauri Wilson (715) 426-8932, lwilson@designerdoors.com.

SOLID CORE INTERIOR DOORS: AWI Section 500 and 1300 for the specified grade, Particleboard cores, w/ binder containing no urea-formaldehyde resin, 5 or 7 plies, stiles and rails bonded to core. Factory-finish (and pre-machine for hardware) - all six (6) sides. Basis of design is Trustile model TM13000 w/ 1/4" kerf cut reveals and 1" stiles (Series: Trustile Reserve - engineered panel w/ composite core and LVL stiles and rails, and cope & stick joinery) for wood veneer doors & standard flush overlay with paint grade finish for standard swing doors, with 'Single Rabbeted Jamb w/Kerf' 1.25"/0.75" thk.

POCKET DOOR FRAMES: Custom fabricated welded steel tube frames w/ LVL headers and wood nailers. Local fabrication, or 'Christner Woodworks' 5500-325 Series Heavy Duty frame; www.heavydutypocketdoorframes.com.

FINISHES:
Refer to door schedule for finish designation at each door.
OPAQUE FINISH: Custom Grade, flush - satin lacquer painted finish. WOOD VENEER FINISH: White Oak, quarter-sawn with slip-matched veneers, and transparent factory-applied finish to match project reference sample.

FABRICATION:
Fabricate doors in conformance with AWI Quality Standards and applicable label requirements. Factory-finish doors as selected. Fabrication tolerances as follows:

Size: +/- 1/16" in any direction.
Squareness: Diagonal measurement difference, +/- 1/8" max.
Factory Hardware: Hinge & lock cutouts, + 1/32", -0"
Telegraphing: Defective when face of door varies more than 1/100"
Warp: 1/4" maximum from door plane for 3'-6" x 7'-0" and smaller doors or in similarly sized sections of larger doors; measured in relation to the plane of the door and not to the frame.

INSTALLATION:
Install doors plumb, square, and within specified tolerances, within the prepared opening for uniform edge spacing, in conformance with manufacturer's recommendations and installation instructions. Install hardware to provide free swinging or sliding doors that operate easily and latch securely without rattling. Coordinate installation of field installed glass. Install specified trim molding. Installation tolerances as follows:

Jamb and Head clearance: 1/8"
Bottom clearance: 5/8"
Diagonal distortion: +1/16", 0"

08 50 Aluminum Clad Wood Windows

QUALITY ASSURANCE: Windows shall conform to the "Voluntary Specifications for Aluminum, Vinyl (PVC) and Wood Windows and Glass Doors" as published by ANSI/AAMA/NWWDA 101/I.S.2, unless specified products achieve more stringent performance.
1. Fixed window rating: C-50
2. Casement window rating: C-70

TESTS:
Air infiltration per ASTM E 283 - when tested at 1.57 psf (25 mph) air leakage shall be as follows:
1. Fixed Windows: 0.30 cfm/ft2 of frame or less.
2. Casement Windows: 0.50 cfm/ft2 of frame or less.

Water infiltration per ASTM E 547 - No water penetration through window when tested under static pressure of 7.5 psf (42 mph) after 4 cycles of 5 minutes each, with water being applied at a rate of 5 gallons per hour per square foot.

LOADING: Uniform load deflection test per ASTM E 330 procedure A with design wind pressure of 30 psf minimum (unless greater per ASCE-7 or applicable building code - see GSN); areas of greatest deflection not to exceed L/175. Uniform load structural test per ASTM E 330 at static pressure of 1.5 times design wind pressure (min.) with permanent deformation of any member not exceeding 0.2% of member span. Contractor shall provide engineered drawings indicating attachment requirements, steel stiffeners, or additional reinforcing as required to withstand wind loading, and for a complete and functional installation, whether all required components are specified/detailed, or not.

WARRANTY: Provide minimum ten (10) year watertight installation warranty.

MATERIALS AND COMPONENTS: 'Windsor' *Pinnacle Contemporary Stop* series aluminum-clad wood window w/ solid wood core, and heavy vinyl integral nailing fin at head, jambs, and sill. All sash material to be kiln-dried, water-repellant, preservative treated in accordance with WDMA I.S. 4-07'A. Dual-glazed insulated units w/ high-altitude breather tubes. Provide manufacturer's optional black fiberglass 'excellent visibility' insect screens in charcoal aluminum frames. Install manufacturer's standard hardware - color to be selected.

SUBMITTALS: Obtain field measurements of framed openings prior to generating shop drawings. Produce detailed shop drawings for this project's specific conditions to fully describe all required fasteners, clips, reinforcing/steel stiffeners, accessories, and weatherstripping as req'd for a complete, weathertight, and warrantable installation. Do not commence fabrication without approved shop drawings and field verified dimensions.

INSTALLATION:
Install plumb, square, and within industry tolerances, within the prepared opening for uniform edge spacing, in conformance with manufacturer's recommendations and installation instructions. Install hardware to provide free swinging that operate easily and latch securely without rattling. Coordinate installation of field installed glass. Install specified trim molding. Provide structural and non-structural sealants as manufactured by Pecora or Dow suitable for specific application. Color to be determined by Architect upon preparation of mockup. Provide all flashing components and conditions in materials and configurations as detailed.Provide field testing as specified.

WINDOWS	'WINDSOR' *PINNACLE*. STYLE: *CONTEMPORARY STOP*. EXTERIOR COLOR: STANDARD COLOR TO BE SELECTED BY ARCHITECT. INTERIOR: *PAINT GRADE*, PAINTED TO MATCH WALLS IN LOW-SHEEN FINISH. GLAZING: *LoE 366* INSULATED GLASS (*ENERGY STAR 2015* & *IECC* COMPLIANT) - SEE WINDOW SCHEDULE FOR ADDITIONAL INFORMATION. PROVIDE SCREENS AT CASEMENT WINDOWS; PROVIDE WITH MFR STANDARD HARDWARE - COLOR TO BE SELECTED BY ARCHITECT. REF. SCHEDULE FOR ADDITIONAL INFORMATION.
WINDOW SYSTEM SWING DOORS	'WINDSOR' *PINNACLE* ENTRANCE DOORS. STYLE: *CONTEMPORARY*. EXTERIOR COLOR: STANDARD COLOR TO BE SELECTED BY ARCHITECT. INTERIOR: *PAINT GRADE*, PAINTED TO MATCH WALLS IN LOW-SHEEN FINISH. GLAZING: *LoE 366* INSULATED GLASS (*ENERGY STAR 2015* & *IECC* COMPLIANT) - SEE WINDOW SCHEDULE FOR ADDITIONAL INFORMATION. MFR STANDARD 5" STILES AND TOP RAIL w/ 1-3/4" SASH PANELS AND GLAV INSTALLATION CLIPS, STEEL STIFFENERS, AND MULLION COVERS AS REQ'D - REF DETAILS. REF. SCHEDULE FOR ADDITIONAL INFORMATION.
WINDOW SYSTEM SLIDING DOORS	'WINDSOR' *PINNACLE* SLIDING PATIO DOORS. STYLE: *CONTEMPORARY STOP*. EXTERIOR COLOR: STANDARD COLOR TO BE SELECTED BY ARCHITECT. INTERIOR: *PAINT GRADE*, PAINTED TO MATCH WALLS IN LOW-SHEEN FINISH. GLAZING: *LoE 366* INSULATED GLASS (*ENERGY STAR 2015* & *IECC* COMPLIANT) - SEE WINDOW SCHEDULE FOR ADDITIONAL INFORMATION. MFR STANDARD 3"W LVL STILES AND 5" BOTTOM RAIL w/ 1-3/4" SASH PANELS, TANDEM ROLLERS w/ ADJUSTABLE, BALL-BEARING WHEELS, STEEL STIFFENERS, AND MULLION COVERS TO COORDINATE WITH ADJACENT FIXED FRAMES AS REQ'D - REF DETAILS. REF. SCHEDULE FOR ADDITIONAL INFORMATION.

08 70 Hardware

REFERENCES: Comply with applicable requirements of the following standards. Where these standards conflict with other specific requirements, the most restrictive shall govern.
1. Builders Hardware Manufacturing Association (BHMA)
2. ANSI-A156.xx- Various Performance Standards for Finish Hardware
3. DHI /ANSI A115.IG – Installation Guide for Doors and Hardware
4. WDMA Industry Standard I.S.-1A-04, Industry Standard for Architectural wood flush doors.

TEMPLATES: Submit templates and "reviewed hardware schedule" to all door and frame suppliers, and others as applicable to enable proper and accurate sizing and locations of cutouts and reinforcing.

SAMPLES: Provide samples of each hardware component and color/finish.

COORDINATION: Engage certified Architectural Hardware Consultant for purposes of scheduling hardware and coordinating with associated trades; review project for extent of finish hardware required to complete the Work. Notify Architect in writing if any conflict in specified products and conditions is found.

INSTALLATION AND FINAL ADJUSTMENT: Install all hardware in accordance with manufacturer's requirements and industry recommendations. Adjust all door closers for proper operation, verify levers are free from binding, ensure latch bolts/deadbolts engage strike, and ensure all hardware functions smoothly.

Refer to Door Schedule for specific hardware group requirements.

08 80 Glazing

NOTE: All glass to meet quality requirements of GANA for all glass types to be provided. Ensure all glass is free of distortion, roller marks, or other visual defects.

WINDOW GLAZING	BY WINDOW MFR - REFER TO WINDOW SCHEDULE FOR DETAILED PERFORMANCE REQUIREMENTS.
MIRRORS	1/4" PLATE GLASS MIRRORS w/ POLISHED EDGES & BLIND ATTACHMENT. SIZE PER DRAWINGS. LOCAL FABRICATION.
SHOWER GLASS	SWING DOORS: FRAMELESS GLASS SHOWER ENCLOSURE: 'CRL' *GENEVA #GEN074 w/ #BM6X6* (POLISHED CHROME) w/ 1/2" CLEAR TEMPERED GLASS 'OLDCASTLE' *LOW-IRON* w/ 'HYDROSHIELD'. PROVIDE WIPES AND SEALS AS REQ'D FOR WATERTIGHT INSTALLATION. SLIDING DOORS: FRAMELESS BI-PARTING GLASS SHOWER DOOR: 'CRL' *HYDROSLIDE* SLIDING SHOWER DOOR SYSTEM (POLISHED CHROME) w/ 1/2" CLEAR TEMPERED GLASS 'OLDCASTLE' LOW-IRON w/ 'HYDROSHIELD'. PROVIDE WIPES AND SEALS AS REQ'D FOR WATERTIGHT INSTALLATION.
GLASS GUARDRAIL	PRE-ENGINEERED CANTILEVERED GLASS GUARDRAIL SYSTEM: 'CRL' *#AFWC2* IN BRUSHED SSTL w/ 1/2" CLEAR TEMPERED GLASS PANELS 'OLDCASTLE' *LOW-IRON* w/ 'HYDROSHIELD'. INSTALLATION PER MFR REQUIREMENTS FOR SPACING AND GLASS FABRICATION - REF DETAILS FOR CUSTOM BRACKET MOUNTS.

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16-101

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STATE OF UTAH
DANIEL HOFFMAN
No. 7829867-0301
June 1, 2017
LICENSED ARCHITECT

A0.21
SPECIFICATIONS

scale

PERMIT SET
phase / rev

2017.06.01
date

GLASS WATER CLOSET DOOR	GLASS PATCH FITTING x3 EQUALLY SPACED : 'CRL' *Black Vienna 337 Series Adjustable Wall Mount Full Back Plate Hinge* V1E337BL w/ 1/2" Sandblasted glass door. Provide 'Emtek' modern round knob 5059 in us19 finish; discard rosette and provide isolation gaskets for glass installation.

09 FINISHES

09 20 Gypsum Board

Provide all materials, labor, equipment & services necessary to furnish & install gypsum board, related panel products & all accessories, screwed to wood wall and ceiling framing support system, finished & ready to receive paint. Unless otherwise noted, all gypsum board edges to be finished with applicable 'L', or 'LC' square-corner metal trim. All gypsum board installation to be completed in accordance with "GA214", latest edition.

GYPSUM BOARD, ACCESSORIES, AND RELATED PRODUCTS: 'Gypsum Association' Application and Finishing of Gypsum Board ("GA216"), latest edition.

INTERIOR WALLS & CEILINGS, TYPICAL	GYPSUM WALLBOARD (GWB) w/ LEVEL 4 FINISH NON-TEXTURED ("SMOOTH WALL") 'USG' 5/8" THK., *SHEETROCK ULTRALIGHT PANELS FIRECODE 30* , TYPICAL UNLESS NOTED OTHERWISE. AT RATED WALLS, PROVIDE *SHEETROCK ULTRALIGHT FIRECODE X PANELS*.
	NOTE: AT BATHROOM WALLS WITH TILE, REPLACE GWB WITH 1/2" THK. CBU's - see Section 09 30.
DEMISING WALLS	'USG' AREA SEPARATION WALL SYSTEM INCLUDING 1" GYPSUM LINER PANELS, SOUND BATTS, 2" H-STUDS, 2" C-RUNNERS, ALUMINUM BREAKAWAY CLIPS, AND OTHER COMPONENTS AS DETAILED IN THE DRAWINGS. MEET UL LISTING U336. AT UNIT SIDE OF DEMISING WALLS, PROVIDE 'NATIONAL GYPSUM' *GOLD BOND 5/8" SOUNDBREAK XP* FIRE AND STC RATED GYPSUM WALL BOARD.
MATERIALS & ACCESSORIES	ACCESSORIES: METAL, ASTM C1047 COMPLIANT. FASTEN w/ TYPE 'W' SCREWS AS PER MFR. ADHESIVES: ASTM C557. ELASTOMERIC JOINT SEALANTS: ASTM C920. JOINT REINF. TAPE & COMPOUND: ASTM C474, C475. STEEL SCREWS: ASTM C954, C1002. STD. SPEC. FOR GYPSUM BOARD: ASTM C1396. TESTING: ASTM C22, C472, C473.

ACCESSORIES (CORNER BEADS, EDGE TRIM AND CONTROL JOINTS: Galvanized metal with flange; corner beads, square edge at all outside corners. See drawings/details for unique conditions.
MOLDING: Galvanized metal; type as required by conditions.
JOINT TAPE: Cross-fibered paper tape.
TAPING AND TOPPING JOINT COMPOUND: ASTM C475; asbestos-free; vinyl based; for embedding tape and first, second and third fill coats.
WATER: Drinkable and free of deleterious quantities of impurities and/or contaminants.
REVEALS: 'Fry Reglet' reveal moldings - refer to details.

INSTALLATION	GYPSUM BOARD & PRODUCTS: GA-214, GA-216; ASTM C840.

Install gypsum board materials in accordance with ASTM C840, GA216, and manufacturer's recommendations and installation instructions, supplemented where necessary, by ANSI A97.I. Reinforce gypsum board at edges and joints with metal accessories, tape, fill with joint compound, and sand to produce a surface that is flush and ready for final decoration. Prime surfaces in accordance with manufacturer's recommendations and installation instructions. Taped joints, fasteners, and flanges of metal reinforcement shall not be visible in the finished work. Seal around all exterior door-window assemblies with acoustical sealant.

SURFACE FLATNESS: Maximum deviation from a flat plane not to exceed 1/8" in 10 feet.
LEVEL #4 Finish, non-textured, per 'Gypsum Association' Recommended Levels of Gypsum Board Finish ("GA214"); coat with drywall primer prior to the application of final finishes.

09 30 Tile

[NOTE TO GC: REFER TO 'OWNER UPGRADE PACKAGE' FOR ALTERNATE MATERIAL SPECIFICATION AS PART OF COMPREHENSIVE UPGRADE OPTION - REFER TO THIS SECTION FOR ALL ACCESSORIES AND INSTALLATION REQUIREMENTS.]

'CERAMICHE CÆSAR' *MORE* SERIES THROUGH-BODY PORCELAIN TILE w/ THIN-SET MORTAR ADHESIVE, REINFORCING, ANTI-FRACTURE MEMBRANE/CRACK ISOLATION, MORTAR BED, AND ACCESSORIES. REFER TO DETAILS FOR INSTALLATION METHOD AT EACH APPLICATION.

COMPONENTS: Basis of design 'MAPEI', u.n.o.:
WATERPROOFING & CRACK-ISOLATION MEMBRANE: 'Mapelastic AquaDefense' w/reinforcing fabric accessories, MAPEI
REINFORCING MESH (Mortar bed reinf.): 2"x2"x16/16 GA. galv. wire mesh
THIN SETTING BED/BOND COAT: Latex-portland cement mortar w/ latex additive in compliance w/ ANSI A118.4; 'Kerabond w/ Keralastic Polymer Modifier'; MAPEI.
MORTAR SETTING BED: Full cement mortar consisting of fully cured mortar bed using standard cementitious materials w/ latex additive; ANSI A108.1; 'Keralastic Polymer Modifier'; MAPEI.
GROUT: Latex-portland cement w/ integral sealer, 'Ultracare Plus SB'; ANSI A118.6; MAPEI; color to be selected by Architect.
WATER: clean, fresh & free of deleterious substances.
ANTI-FRACTURE MEMBRANE (SHOWERS): 'Noble Company' NobleSeal TS w/ sealant
SEALER: 'Keraseal'; MAPEI.
BACKERBOARD: 'Durock' Cement Board; USG
TRANSITION STRIP: 'Schluter' Scheine series, satin stainless steel, in dimension required. Provide between all transitions to dissimilar floor material at centerline of doors, or aligned to building components as indicated on floor finish plans.
SHOWER PAN LINER: 'Noble Company' Chloraloy CPE shower pan liner w/ corresponding compatible sealant.

INSTALLATION:
Install using first class workmanship, following mfr's recommendations & instructions, supplemented by the 'TCNA Handbook for Ceramic Tile Installation', with anti-fracture membrane & grouting as per ANSI A108.10 & expansion joints per TCNA EJ171. Extend tile work into recesses & under equipment & fixtures to form a complete covering without interruptions, except as otherwise shown. Terminate work neatly at obstructions, edges & corners without disruption of pattern or joint alignments. Align all joints in both directions w/ joint width as recommended by the mfr for the specific tile, unless noted otherwise. Ensure tile joints are straight, level & plumb, uniform in width, subject to normal tolerances due to tile manufacture. Ensure joints are water tight, without voids, cracks, and/or excess grout. Where tile abuts building components which may not be level and/or plumb, install tile w/ plumb & level joints, & conceal final row of tile exhibiting variance beneath wall mounted cabinets, behind trim, & similar conveniences. Install crack control membrane for isolation from underlying cracks and cold joints in accordance w/ mfr's recommendations.

INTERIOR WALLS: Install backer board in accordance w/ mfr's instructions & thin set tile in accordance w/ TCA W244C-11.
GROUTING: Grout floors & walls using latex-modified portland cement grout in accordance w/ ANSI A108.10. Color to be selected by Architect from full range of available grout manufacturers' products.
EXPANSION/ CONTROL JOINTS: TCA EJ171. Provide sanded sealant in color to match approved grout.
SEALER: Apply as per manufacturer's recommendations.

09 64 Wood Plank Floors

[NOTE TO GC: REFER TO 'OWNER UPGRADE PACKAGE' FOR ALTERNATE MATERIAL SPECIFICATION AS PART OF COMPREHENSIVE UPGRADE OPTION - REFER TO THIS SECTION FOR ALL ACCESSORIES AND INSTALLATION REQUIREMENTS.]

1. Provide all materials, labor, equipment and services necessary to complete the wood strip flooring, as shown on the drawings and/or specified herein, including wood strip flooring and base, plywood subflooring (where noted), accessories, sleepers (where noted), and field finishing.

2. SUBMITTALS:
A. PRODUCT DATA: For flooring products.
B. SHOP DRAWINGS: Show installation details, including location and layout of each type of wood and accessory.
C. SAMPLES: For each type of wood and accessory, with stain and finish(es) required, approximately 12 inches long and of same thickness and material indicated for the work. Include sample sets showing full range of normal color and texture variations expected.
D. MOCKUP: Minimum size 48" x 48".

3. MATERIALS AND COMPONENTS:
A. FLOORING: 'Mirage' Carousel; 6" wide prefinished t&g planks in random lengths. Species: White Oak, Brushed Texture. Finish: Extra Matte Sheen. Provide w/ matching square-edged stair nosing, treads and risers.
B. FINISH: Pre-finished. Matte sheen.
C. ADHESIVE & MOISTURE VAPOR BARRIER: 'Bostik' Ultra-Set SingleStep, one-part, trowel applied, tacking, moisture-cure urethane adhesive and moisture vapor retarder.
D. FASTENERS: As recommended by manufacturer, but not less than that recommended by the NWFA (National Wood Flooring Association) 'Installation Guidelines'.
E. SUBFLOOR FILLER: Premixed latex cementitious type 'Ardex' K 15.

4. EXAMINATION & PREPARATION:
Remove all existing floor coverings (where they occur). Examine subsurfaces to receive Work are in compliance with NWFA 'Installation Guidelines' and with manufacturers' recommendations. Report all detrimental conditions in writing to Architect. Commencement of Work will be construed as acceptance of subsurfaces. Verify subfloor is properly secured, is smooth and flat to plus or minus 1/8 inch in 10 feet, free of sealers, oil, grease, dust, paint, and foreign substances. Completely remove cutback adhesive residue or other surface contaminants by diamond grinding to open the pores of the concrete. Concrete subfloor must have surface profile of CSP 2-3 (similar to light broom finish), as defined by the ICRI (International Concrete Repair Institute, Guideline No. 03732). Burnished, slick steel-troweled slabs may require screening with a 30-grit abrasive. Broom clean substrate. Use subfloor filler to patch cracks, honeycomb, small holes, and for minor leveling. Subfloor must be dry and within moisture requirements and moisture testing as per NWFA guidelines and manufacturer recommendations.

Coordinate with other Work which affects, connects with, or will be concealed by this Work. Verify that floor mounted utilities are in proper location. Verify mechanical, electrical, and building items affecting work of this section are placed and ready to receive this work.

5. INSTALLATION:
Install using first class workmanship, following mfr's recommendations & instructions, supplemented by the NWFA's 'Installation Guidelines'. Lay flooring symmetrical to room center line, parallel to walls in pattern as directed by the Architect. Incorporate manufacturer-recommended expansion gaps within field randomly for natural appearance. Provide divider strips at centerline of door openings and where flooring terminates with other floor areas. Provide 1/4 expansion space at walls and other interruptions. Install moldings and trim with minimum of joints and mitered corners. If recommended by the manufacturer, use tape or tensioners, and weights, to maintain a tight floor. If recommended by the manufacturer, roll the floor with the proper roller.

6. PROTECTION:
Fully cover installed flooring to protect from damage before and after finishing, and during remainder of construction period. Use building paper or other suitable covering. Do not use plastic sheet or film that could cause condensation. Do not tape covering to finish flooring.

09 68 Carpet

[NOTE TO GC: REFER TO 'OWNER UPGRADE PACKAGE' FOR ALTERNATE MATERIAL SPECIFICATION AS PART OF COMPREHENSIVE UPGRADE OPTION - REFER TO THIS SECTION FOR ALL ACCESSORIES AND INSTALLATION REQUIREMENTS.]

CLASS II OR BETTER, DOC FF-1 "PILL TEST" PER NFPA 253. CLASS C OR BETTER PER ASTM E84.

CARPET	'GODFREY HIRST' *BIG SUR* PATTERNED LOOP & CUT-PILE, 100% DYED FIBER, 35OZ w/ SCOTCHGARD. PROVIDE w/ 'HEALTHIER CHOICE' LOW-PROFILE PAD. COLOR TO BE SELECTED BY ARCHITECT.

09 90 Painting

1. DESCRIPTION OF THE WORK: The work includes all materials, labor, equipment and services necessary to coordinate selection of materials and workmanship with paint manufacturer's representative, inspect surfaces prior to painting, prepare surfaces, correct any and all surface deviations exceeding specified tolerances, touch up damaged shop-primed surfaces, prime.

2. MATERIALS:
INTERIOR GYPSUM BOARD: Premium Zero VOC 100% Acrylic System. 'Dunn Edwards' *Enso*.
INTERIOR WOOD, opaque finish: Premium Zero VOC 100% Acrylic System. 'Dunn Edwards' *Enso*.
INTERIOR WOOD, clear finish: 'Old Masters' *100% Pure Tung Oil*.
EXTERIOR WOOD, clear finish: 'Armstrong-Clark' Transparent Wood Stain, Natural Tone.
INTERIOR FERROUS METAL, clear finish: 'Valspar' *Val Oil Sealer*
EXTERIOR FERROUS METAL, opaque finish: 'PPG' *Amercoat 385* (field touch-up); *Amershield* (finish coat).

3. PREPARATION AND APPLICATION: Perform the work in accordance with manufacturer's recommendations for cleaning and surface preparation and treatment supplemented by manufacturer's recommendations made during onsite inspections. Field conditions may require the use of alternative surface preparation treatment as recommended by the manufacturer to ensure adequate bonding and coverage. Exterior ferrous metals to be surface preparation 6 (SP6) and shop primed. Welds shall be primed w/ primer compatible w/ shop primer.

Each coat will be applied at not less than the manufacturer's recommended spread rate (minimum dry film thickness), in accordance with manufacturer's recommendations and application instructions. Additional topcoats will be applied beyond that specified when undercoats or other conditions show through final topcoat, until dry film is of uniform finish, color and appearance. All materials will be brush, roll or spray-applied smoothly and evenly, free from brush marks sags, runs, crawls, voids ("holidays") and defects of any and all kinds.

10 SPECIALTIES

10 14 Signage

ADDRESS IDENTIFICATION	CUSTOM FABRICATED; BY OWNER TO MEET REQUIREMENTS OF 2015 IRC R319.1; LETTERS/NUMBERS OF 4" HEIGHT AND 0.5" STROKE IN CONTRASTING COLOR TO THE BACKGROUND.

10 28 Toilet Accessories

Work of this Section includes all labor, materials, equipment and services necessary to complete the toilet accessories as shown on the drawings and/or specified herein.

Product Data: Submit manufacturer's technical data, catalogue cuts and installation instructions for each toilet accessory.

Setting Drawings: Provide setting drawings, templates, instructions, and directions for installation of anchorage devices in other work.

Submit schedule of accessories indicating quantity and location of each item.

Deliver accessories to the site ready for use in the manufacturer's original and unopened containers and packaging, bearing labels as to type or material, manufacturer's name and brand name. Delivered materials shall be identical to approved samples.

MATERIALS
Stainless Steel: AISI Type 302/304, with polished No. 4 finish, 22 gauge minimum, unless otherwise indicated.
Chromium Plating: Nickel and chromium electro-deposited on base metal, ASTM B 456, Type SC 2.
Mirrors: ASTM C 1503, mirror glazing quality, clear glass mirrors, nominal 1/4" thick.

FASTENING DEVICES
Exposed Fasteners: Theftproof type, chrome plated, or stainless steel; match finishes on which they are being used.
Concealed Fasteners: Galvanized (ASTM A 123) or cadmium plated.
No exposed fastening devices permitted on exposed frames.

SCHEDULE

TOILET PAPER HOLDER	'TAYMOR' *Tenor Collection* 04-32048BLK
TOWEL BAR	'TAYMOR' *Tenor Collection* 04-32024BLK
ROBE HOOK	'TAYMOR' *Tenor Collection* 04-32001BLK
HAND TOWEL BAR	'TAYMOR' *Tenor Collection* 04-32009BLK
MEDICINE CABINET	-NOT PROVIDED-
SHOWER ROD	'TAYMOR' adjustable curved shower rod 01-C6289

EXECUTION
INSPECTION:
Examine the areas and conditions where toilet accessories are to be installed and correct any conditions detrimental to the proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions are corrected to permit proper installation of the work.

PREPARATION:
Furnish templates and setting drawings and anchor plates required for the proper installation of the accessories at gypsum drywall and masonry partitions. Coordinate the work to assure that base plates and anchoring frames are in the proper position to secure the accessories.

Verify by measurements taken at the job site those dimensions affecting the work. Bring field dimensions which are at variance with those on the approved shop drawings to the attention of the Architect. Obtain decision regarding corrective measures before the start of fabrication of items affected. Cooperate in the coordination and scheduling of the work of this Section with the work of other Sections so as not to delay job progress.

INSTALLATION:
Install accessories at locations indicated on the drawings, or as directed by the Architect, using skilled mechanics, in a plumb, level and secure manner. Concealed anchor assemblies for gypsum drywall partitions shall be securely anchored to framing to accommodate accessories. Secure accessories in place as per the manufacturer. Unless otherwise indicated, accessories shall conform to heights from the finished floor as shown on the drawings. Where locations are not indicated, such locations shall be as directed by the Architect. Installed accessories shall operate quietly and smoothly for use intended. Doors and operating hardware shall function without binding or unnecessary friction.

10 30 FIREPLACES

Provide all materials, labor, equipment and services necessary to furnish and install fireplaces complete with anchors and related components and accessories.

PRODUCTS:
A. FREESTANDING FIREPLACES (Direct Vent Factory-built Fireplace): 'Malm' *Zircon 30*" model steel fabricated firebox and corresponding chimney tested in accordance with UL 737 compliant. Matte Black finish, 7" connector size. Provide 24" slip section(s) as required for ceiling height. Supply with manufacturer's standard screen, and optional M16 iron grate. Provide as customized unit for direct-set to hearth (no integral base). Provide manufacturer's touch-up matte black aerosol paint for repairs, and turn over to Owner.
B. CHIMNEY: 'Duravent' DuraTech 5" - 8" dual wall insulated chimney flue meeting UL 103 for type HT chimney, with black finish and square box sloped ceiling adapter with trim plate and collar for connection to fireplace stovepipe. Provide manufacturer's adjustable elbow straps, adjustable roof support 5DT-ARS, finishing collar adapter #9558, attic insulation shield, and all exterior accessories required for a complete, code-compliant, and weathertight installation.
C. HEARTH Hearth extension to be provided in accordance with listing of fireplace - material to be readily distinguishable from the surrounding floor area and comply with UL 1618.

INSTALLATION:
Install unit in strict accordance with manufacturer's instructions; all components are to be listed for use with specified factory-built fireplace and chimney system, and in accordance with Building Code, and any local requirements.

NOTE: Provide interlock devices with house outside air intake fan to ensure interior of house remains neutral or positive as per IRC Section R1006.1.

10 50 STORAGE SPECIALTIES

Provide all materials, labor, equipment and services necessary to furnish and install pre-fabricated storage and accessory furniture and equipment; coordinate with all required utilities and provide additional components, fasteners, and ancillary materials as required for a complete installation.

SCHEDULE

SKI/SNOWBOARD RACK	'MONKEY BARS' storage rack system consisting of the following components: 2 - Single Bar Brackets 1 - 51" Monkey Bar 3 - 6" Narrow Hooks 2 - 12" Hooks 1 - Hardware Bag
BICYCLE RACK	'TOPEAK' *Dual-Touch Bike Stand*
BOOT DRYERS	'DryX' Rustic Design - 4-pair boot and glove dryer with customized end panels.

EXECUTION
INSPECTION:
Examine the areas and conditions where storage products and equipment are to be installed and correct any conditions detrimental to the proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions are corrected to permit proper installation of the work.

PREPARATION:
Furnish templates and setting drawings and anchor plates required for the proper installation of the accessories at gypsum drywall and masonry partitions. Coordinate the work to assure that base plates, blocking, and/or anchoring frames are in the proper position to secure the accessories.

Verify by measurements taken at the job site those dimensions affecting the work. Bring field dimensions which are at variance with those on the approved shop drawings to the attention of the Architect. Obtain decision regarding corrective measures before the start of fabrication of items affected. Cooperate in the coordination and scheduling of the work of this Section with the work of other Sections so as not to delay job progress.

INSTALLATION:
Install itesm at locations indicated on the drawings, or as directed by the Architect, using skilled mechanics, in a plumb, level and secure manner. Secure accessories in place as per the manufacturer. Unless otherwise indicated, accessories shall conform to heights from the finished floor as shown on the drawings. Where locations are not indicated, such locations shall be as directed by the Architect. Installed accessories shall be firmly affixed to building and function properly for use intended.

11 EQUIPMENT

11 30 Residential Equipment

[NOTE TO GC: REFER TO 'OWNER UPGRADE PACKAGE' FOR ALTERNATE EQUIPMENT SPECIFICATION AS PART OF COMPREHENSIVE UPGRADE OPTION - REFER TO THIS SECTION FOR ALL ACCESSORIES AND INSTALLATION REQUIREMENTS.]

Provide all materials, labor, equipment and services necessary to install owner-provided built-in and/or freestanding appliances. Provide Energy Star compliant appliances where available.

COOKTOP AND DOWNDRAFT VENT	36"W INDUCTION COOKTOP, SSTL & GLASS, w/ TELESCOPING DOWNDRAFT VENT SYSTEM (EXHAUST TO TERMINATE AT EXTERIOR SOFFIT). BASIS OF DESIGN: 'BOSCH' NIT5668UC COOKTOP w/ DHD3614UC DOWNDRAFT VENT
OVEN	ELECTRIC 30" WALL OVEN, STAINLESS STEEL, UNDER COUNTER. PROVIDE FILLER PANELS TO MATCH CABINETRY AS REQUIRED. BASIS OF DESIGN: 'BOSCH' HBL5351UC
DISHWASHER	BUILT-IN 24" UNDERCOUNTER DISHWASHER, STAINLESS STEEL TUB, WITH PANEL TO MATCH CABINETRY. ENERGY STAR. BASIS OF DESIGN: 'BOSCH' SHVM63W53N
REFRIGERATOR, TYPICAL UNIT	FULLY INTEGRATED PANEL-READY 36" REFRIGERATOR / FREEZER w/FILTRATION & ICE MAKER, SSTL. ENERGY STAR. BASIS OF DESIGN: 'FISHER & PAYKEL' RS36A72J1
MICROWAVE	24"W, DRAWER-STYLE, BELOW COUNTER, SSTL. BASIS OF DESIGN: 'BOSCH' HMD8451UC
WASHER AND DRYER	STACKED FRONT-LOADING WASHER AND DRYER BASIS OF DESIGN: 'GE' GFWN160JWW & GFDN160EJWW

INSTALLATION: Ensure that all wood blocking is in place and secured to framing. Provide all related accessories for a complete and functional installation including filters, lamps, switches, etc. Install appliances per manufacturer's recommendations and installation instructions, plumb, level, in true alignment with one another and with adjacent work. Maintain dimensional tolerances. Leave finished surfaces unblemished.

13 SPECIAL CONSTRUCTION

13 17 Hot Tubs and Pools

All hot tubs are by Owner. Hot tubs, spas, and therapeutic pools to be installed in accordance with IRC 2015 chapter 42, packaged spa. Provide electrical disconnect within line of sight from spa at a distance of no less than 5 feet. Provide GFCI outlets as required for heater, pump, lights, etc. at a distance of between 6 and 10 feet from inside walls of spa. All other outlets to be no closer than 6 feet from inside walls of spa.

21 FIRE SUPPRESION

21 13 Wet Pipe Sprinkler System

SPRINKLERS	CONCEALED HEAD WET PIPE SYSTEM w/FREEZE PROTECTION (HEAT TRACE) WHERE EXPOSED TO POTENTIAL FREEZING. DESIGN/ENGINEERING, PERMITTING, AND INSTALLATION BY CONTRACTOR. REFER TO REFLECTED CEILING PLANS FOR CONCEPTUAL LAYOUT. PROVIDE ADDITIONAL HEADS AS REQUIRED AND/OR WHERE REQUESTED BY ARCHITECT, AT NO ADDITIONAL COST, TO MAINTAIN SPECIAL ALIGNMENTS OR RELATIONSHIPS WHILE MAINTAINING CODE-COMPLIANT DESIGN. NOTE: CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR APPROVAL BY ARCHITECT PRIOR TO PERMITTING AND COMMENCING WORK. ALL CONCEALED HEADS (SIDEWALL AND CEILING) TO BE PRE-FINISHED WHITE, TYPICAL.

22 PLUMBING

Refer to Plumbing drawings for general plumbing piping and fixture requirements.

Provide full perimeter foundation drainage system, and sub-slab drainage below all occupied slab-on-grade areas of the lower level of every unit. Pipe for sub-slab and foundation drain: perforated wall pvc pipe: astm d 2665, drain to 5 feet from building, solid-wall pvc pipe: astm d 2665, drain for continuation to site storm drainage system.

22 40 Plumbing Fixtures

[NOTE TO GC: REFER TO 'OWNER UPGRADE PACKAGE' FOR ALTERNATE FIXTURES SPECIFICATION AS PART OF COMPREHENSIVE UPGRADE OPTION - REFER TO THIS SECTION FOR ALL ACCESSORIES AND INSTALLATION REQUIREMENTS.]

FIXTURES:
All fixtures to be white porcelain and all faucets and controls to be polished chrome unless noted otherwise.

TOILET	'DURAVIT' *STARK 3* ONE-PIECE ELONGATED #212001
SEAT AND COVER	'DURAVIT' #006339
LAV - UNDERMOUNT	'LACAVA' *CUBE* #5451
DRAIN	'LACAVA' #7100-12
SINGLE HOLE, SINGLE LEVER FAUCET	'MOEN' *ALIGN* #6190
POWDER ROOM LAVATORY	'DURAVIT' *ARCHITEC* WALL MOUNT LAVATORY #076635
TRAP	POLISHED CHROME BOTTLE TRAP
POWDER ROOM FAUCET	REFER TO SINGLE HOLE, SINGLE LEVER FAUCET
SHOWER HEAD SHOWER ARM & FLANGE HAND SHOWER AND DIVERTER	'SPEAKMAN' *ICON* #S-2252-E2, 2.0 GPM. 'SPEAKMAN' *NEO* #S-2540 'SPEAKMAN' *NEO* #VS-3010-E2, 2.0 GPM w/ 'MOEN' ALIGN #T4191 AND #3372 TRANSFER VALVE & TRIM
PRESSURE BALANCING AND TEMPERATURE CONTROL VALVE & TRIM	'MOEN' *ALIGN* #T3291 VALVE TRIM w/ 'MOEN' *MOENTROL #3570 VALVE*
FULL-WIDTH LINEAR DRAIN, SATIN SSTL, w/ SSTL FIXED FLANGE CHANNEL, WELDED END STOPS, AND INTEGRAL OUTLET	'INFINITY DRAIN' #FFAS-25
CLAMP DOWN ASSEMBLY	2" w/ DRAINAGE CHANNELS, 'INFIITY DRAIN' CD_22, OR EQUIVALENT (REF. PLBG FOR MAT'L REQ'S) NOTE: Bottom of shower head to be not less than 80" above finished elevation of shower floor.
BATHTUB - DECK MOUNT-TYPE w/ APRON AND DECK	'DURAVIT' STARK #700336000000090 w/ #ST8938 TOP (DECK) PANEL FOR NICHE (ALCOVE) CONDITION, #790112 TILE FLANGE, #790220 CABLE-DRIVEN WASTE AND OVERFLOW, #790103 ANCHORS, #790108 SUPPORT FRAME, AND #701067 ACRYLIC FRONT PANEL
TUB FILLER	'MOEN' *ALIGN* T394 TWO-HANDLE DIVERTER ROMAN TUB FAUCET w/ HAND SHOWER
FAUCET VALVE	'MOEN' 9792 VALVE
KITCHEN SINK 18GA SINGLE BOWL SSTL UNDERMOUNT 31"x18" w/REAR DRAIN, SOUND DEADENING	'MOEN' *1800-SERIES* #G18180
3-1/2" SATIN SSTL STRAINER AND DRAIN	'MOEN' #22037
SINGLE HOLE/LEVER, PULL-OUT SPRAY KITCHEN FAUCET	'MOEN' *ALIGN* #7565
3/4 HP GARBAGE DISPOSAL CONTROLLER	'INSINKERATOR' *EVOLUTION COVER CONTROL PLUS* 'INSINKERATOR' *SINKTOP SWITCH BUTTON*
PROVIDE w/ SINK FLANGE AND SSTL STOPPER	'INSINKERATOR' #STS-00
HOSE BIBBS, FREEZE-PROOF	REF PLUMBING DRAWINGS
WATER HEATER, ELECTRIC TANK STYLE	REF PLUMBING DRAWINGS
WHOLE-HOUSE WATER FILTER	N.I.C. - BY OWNER

23 HVAC

RADIANT IN-FLOOR HYDRONIC SYSTEM - REF MECHANICAL DRAWINGS.

26 ELECTRICAL

architect
STUDIO MA
130 N Central Avenue No.300
Phoenix, Arizona 85004
T 602 251 3800

sma project no.
16-101

sma project name
POWDERCAT

OWNER
orr powdercat th development, llc
11180 sunrise valley drive, ste 300
reston, va 20191
t (703) 289-2125

CIVIL
talisman civil consultants
5217 south state st, ste 200
murray, ut 84107
t (801) 743-1308

STRUCTURAL
rudow+berry, inc.
4032 n miller rd. a100
scottsdale, az 85251
t (480) 946-8171

MECH/PLBG/ELEC
peterson associates consulting engineers, inc.
7201 n dreamy draw dr, ste 200
phoenix, az 85020
t (602) 388-1732

LANDSCAPE
langvardt design group
328 W 200 S
salt lake city, ut 84101
t (801) 583-1295

STATE OF UTAH
DANIEL HOFFMAN
No. 7829867-0301
June 1, 2017
LICENSED ARCHITECT

A0.22
SPECIFICATIONS

scale

PERMIT SET
phase / rev

2017.06.01
date

LIGHTING:
All lighting to be retrofit LED-type (LED replacement A-type, or similar lamps) except where noted. See light fixture schedule for specific manufacturers and models. Provide spare lamps for exterior wall sconces at rate of two (2) ea per exterior fixture per unit. All lamps to be 3000K color temperature with CRI of 80 or better.

RECEPTACLES, OUTLETS:
'Lutron' Designer Style Claro, Satin finish, Color: 'Snow (SW)'. Exterior outlets to be manufacturer's standard gray color. Refer to electrical drawings for all other requirements.

28 ELECTRONIC SAFETY AND SECURITY

28 30 Electronic Detection and Alarm

Fire, Smoke, CO alarms: Refer to code study and electrical drawings.

31 EARTHWORK

31 00 Earthwork

Perform all excavation & backfilling in accordance w/ requirements of geotechnical report & in conformance with local/regional jurisdictional construction details. Refer to civil drawings.

TERMITE CONTROL AND PRE-EMERGENT: Apply termite control (non-toxic chemical application, or alternative methods) throughout all disturbed soil areas, underslab, and around all utility penetrations through below-grade walls. Apply pre-emergent herbicide below all slab-on-grade areas following grading activities, and prior to aggregate base installation.

31 50 Excavation Support and Protection

Contractor shall provide temporary bracing, shoring, guying, or other means to avoid excessive stresses and to hold soil, or structural elements in place during construction. Contractor shall be responsible for obtaining all required engineering, drawings, and permits for installing temporary or permanent soil shoring.

32 EXTERIOR IMPROVEMENTS

FENCES AND GATES	NO WORK
EXISTING SITE WALLS	NO WORK
LANDSCAPE AREA	REF. LANDSCAPE Provide restorative grading and re-vegetation of the area impacted by construction will be required. Planting (by others) to follow Summit Powder Mountain Design Guidelines, Section G and Appendix A thru F.

33 UTILITIES

Refer to civil drawings for all site utility connections, materials, and installation requirements.

All vaults and in-grade boxes within sidewalk areas to be provided with traffic-rated concrete lids; consolidate multiple meters, shut-off valves, etc. under a single lid where possible - refer to civil drawings for additional requirements.

Refer to plumbing drawings for perimeter foundation drainage system. Also provide full sub-slab drainage system, see Section 22 - Plumbing. Connect all to storm drain system - ref civil for continuation.

OWNER UPGRADE PACKAGE

The documents describe base-bid conditions for finishes, feature, and equipment. Owner upgrade package is available for each individual lot. Component upgrades within this package are identified as "upgrade" for bidding purposes and may be selected by an owner upon final pricing.

Specific plan options for lots 124 and 133 are indicated where available on the respective plan sheets for these lots, and are to be priced for possible owner selection prior to construction.

The following items are available to any of the lots, and are all included as part of this comprehensive (not piecemeal) upgrade.

11 30 Residential Equipment - UPGRADE

Provide all materials, labor, equipment and services necessary to install owner-provided built-in and/or freestanding appliances. Provide Energy Star compliant appliances where available.

COOKTOP AND DOWNDRAFT VENT	36"W INDUCTION COOKTOP, SSTL & GLASS, w/ TELESCOPING DOWNDRAFT VENT SYSTEM (EXHAUST TO TERMINATE AT EXTERIOR SOFFIT). BASIS OF DESIGN: 'MIELE' KM5860-36" WITH 'MIELE' DA6490 36" DOWNDRAFT VENT
OVEN	ELECTRIC 30" WALL OVEN, STAINLESS STEEL, UNDER COUNTER. PROVIDE FILLER PANELS TO MATCH CABINETRY AS REQUIRED. BASIS OF DESIGN: 'MIELE' H6680BP 30" UNDERCOUNTER MOUNT WALL OVEN
DISHWASHER	BUILT-IN 24" UNDERCOUNTER DISHWASHER, STAINLESS STEEL TUB, WITH PANEL TO MATCH CABINETRY. ENERGY STAR. BASIS OF DESIGN: 'MIELE' GEN6000 DIAMOND 24" DISHWASHER
REFRIGERATOR, TYPICAL UNIT	FULLY INTEGRATED PANEL-READY 36" REFRIGERATOR / FREEZER w/FILTRATION & ICE MAKER, SSTL. ENERGY STAR. BASIS OF DESIGN: 'MIELE' KF1930Vi 36" BOTTOM FREEZER
MICROWAVE	24"W, DRAWER-STYLE, BELOW COUNTER, SSTL. BASIS OF DESIGN: 'MIELE' M6260TC 24" INTEGRATED MICROWAVE MOUNT WITH TRIM KIT

22 40 Plumbing Fixtures - UPGRADE

Refer to base bid condition for general plumbing requirements, and for standard fixtures and equipment, including water heater, garbage disposal, and all other accessories as required for a complete installation.

TOILET	'DURAVIT' *HAPPY-D.2* FLOOR STANDING BACK-TO-WALL MODEL #213909 w/ 'GEBERIT' IN-WALL UNIT #109304 w/ *SIGMA* FLUSH PLATE #115770
SEAT AND COVER	'DURAVIT' #006989
LAV - VESSEL SINK - TYP LAV - VESSEL SINK - MSTR BATH	'VOLA' WS *UNIT* 60 'VOLA' WS *UNIT* 100
SINGLE LEVER FAUCET, WALL-MOUNT	'VOLA' *911M*, 1.2 GPM.
POWDER ROOM LAVATORY	'VOLA' WS *NICE* 25
TRAP	POLISHED CHROME BOTTLE TRAP
POWDER ROOM FAUCET	'VOLA' *HV1M+30*
SHOWER HEAD, THERMOSTATIC VALVE/TRIM, AND HAND SHOWER	'VOLA' *2471-061*
FULL-WIDTH LINEAR DRAIN, SATIN SSTL, w/ SSTL FIXED FLANGE CHANNEL, WELDED END STOPS, AND INTEGRAL OUTLET	'INFINITY DRAIN' #FFAS-25
CLAMP DOWN ASSEMBLY	2" w/ DRAINAGE CHANNELS, 'INFIITY DRAIN' CD_22, OR EQUIVALENT (REF. PLBG FOR MAT'L REQ'S) NOTE: Bottom of shower head to be not less than 80" above finished elevation of shower floor.
BATHTUB - FREESTANDING	'VICTORIA AND ALBERT' *VETRALLA* VET-N-SW-OF w/ K51 OVERFLOW AND STOPPER
TUB FILLER	'VOLA' *2411C-071* FAUCET, DIVERTER, AND HAND SHOWER w/ BUILT-IN THERMOSTATIC MIXING VALVE
KITCHEN SINK PORCELAIN BOWL UNDERMOUNT 28"x20" w/REAR DRAIN, SOUND DEADENING	'FRANKE' *MANOR HOUSE* #MHK110-2 FIRECLAY WHITE
3-1/2" SATIN SSTL STRAINER AND DRAIN	-TO MATCH FAUCET
SINGLE LEVER KITCHEN FAUCET	'VOLA' *590H*
KITCHEN SPRAY HEAD	'VOLA' *500MT1*

09 30 Tile - UPGRADE

Refer to base bid condition for general material and installation requirements, and for all other accessories as required for a complete installation.

FLOORS:
'WATERWORKS' *KEYSTONE* 6"x12" ARAN GRAY IN HONED FINISH, THINSET OR MORTAR SET - REF DETAILS FOR SPECIFIC INSTALLATION REQUIREMENTS BY LOCATION/USE.

WALLS (BATHROOMS ONLY):
'WATERWORKS' *WATERCOLORS* 3"x6" SEA SALT IN SANDED FINISH, THINSET w/ WHITE MODIFIED MORTAR o/ C.B.U.'s.

09 64 Wood Plank Floors - UPGRADE

Refer to base bid condition for general material and installation requirements, and for all other accessories as required for a complete installation.

FLOORING: 'CARLISE WIDEPLANK FLOORS' *CASUAL COLLECTION*; 8" wide unfinished t&g engineered wood flooring. Species: White Oak, 'Weathered Windmill'. Finish: Site finish with Polyurethane UV resistant top coat in Extra Matte Sheen. Provide w/ matching square-edged stair nosing, treads and risers.

09 68 Carpet - UPGRADE

Refer to base bid condition for general material and installation requirements, and for all other accessories as required for a complete installation.

CARPET	'KARASTAN' *DONNINGTON* PATTERNED LOOP PILE, 100% NEW ZEALAND WOOL AND WOOL BLENDS, w/ SCOTCHGARD; COLOR TO BE SELECTED BY OWNER W/ 'J MISH', NATURAL PERFORMANCE WOOL CUSHION 24 OZ. CARPET PAD.

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130 N Central Avenue No.300
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T 602 251 3800

sma project no.
16-101

sma project name
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STATE OF UTAH
DANIEL HOFFMAN
No. 7828867-0301
June 1, 2017
LICENSED ARCHITECT

A0.23
SPECIFICATIONS & OWNER UPGRADE

scale

PERMIT SET
phase / rev

2017.06.01
date

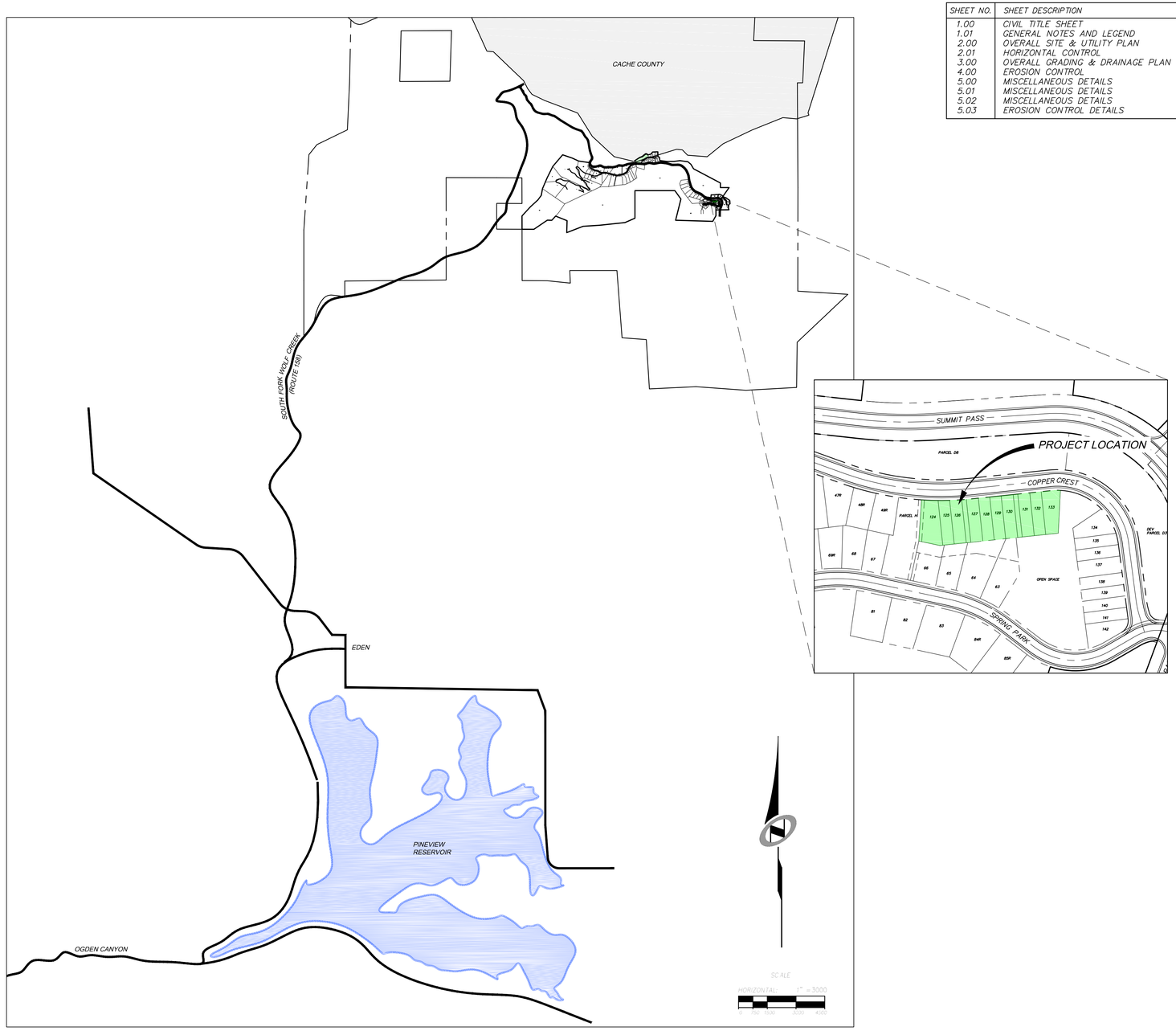
POWDERCAT

CONSTRUCTION DRAWINGS

Located in Sec 05 and 06 T7N R2E
Weber County, Utah

SHEET INDEX:

SHEET NO.	SHEET DESCRIPTION
1.00	CIVIL TITLE SHEET
1.01	GENERAL NOTES AND LEGEND
2.00	OVERALL SITE & UTILITY PLAN
2.01	HORIZONTAL CONTROL
3.00	OVERALL GRADING & DRAINAGE PLAN
4.00	EROSION CONTROL
5.00	MISCELLANEOUS DETAILS
5.01	MISCELLANEOUS DETAILS
5.02	MISCELLANEOUS DETAILS
5.03	EROSION CONTROL DETAILS



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REGISTERED PROFESSIONAL ENGINEER
No. 7899506
RYAN W CATHEY
6/30/17
STATE OF UTAH

c1.00
CIVIL TITLE SHEET

1"=3000'
scale

SUBMITTAL SET
phase / rev

2017.05.30
date

GENERAL NOTES

1. ALL CONSTRUCTION MUST STRICTLY FOLLOW THE STANDARDS AND SPECIFICATIONS SET FORTH BY: GOVERNING UTILITY MUNICIPALITY, GOVERNING CITY OR COUNTY (IF UN-INCORPORATED), INDIVIDUAL PRODUCT MANUFACTURERS, THE DESIGN ENGINEER, AND AMERICAN PUBLIC WORKS ASSOCIATION (APWA). THE ORDER LISTED ABOVE IS ARRANGED BY SENIORITY. IF A CONSTRUCTION PRACTICE IS NOT SPECIFIED BY ANY OF THE LISTED SOURCES, CONTRACTOR MUST CONTACT DESIGN ENGINEER FOR DIRECTION.
2. CONTRACTOR TO STRICTLY FOLLOW GEOTECHNICAL RECOMMENDATIONS FOR THIS PROJECT. ALL GRADING INCLUDING BUT NOT LIMITED TO CUT, FILL, COMPACTION, ASPHALT SECTION, SUBBASE, TRENCH EXCAVATION/BACKFILL, SITE GRUBBING, RETAINING WALLS AND FOOTINGS MUST BE COORDINATED DIRECTLY WITH THE PROJECT GEOTECHNICAL ENGINEER.
3. TRAFFIC CONTROL, STRIPING & SIGNAGE TO CONFORM TO CURRENT UDOT TRANSPORTATION ENGINEER'S MANUAL AND MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
4. ANY AREA OUTSIDE THE LIMIT OF WORK THAT IS DISTURBED SHALL BE RESTORED TO ITS ORIGINAL CONDITION AT NO COST TO OWNER.
5. CONSULT ALL OF THE DRAWINGS AND SPECIFICATIONS FOR COORDINATION REQUIREMENTS BEFORE COMMENCING CONSTRUCTION.
6. AT ALL LOCATIONS WHERE EXISTING PAVEMENT ABUTS NEW CONSTRUCTION, THE EDGE OF THE EXISTING PAVEMENT SHALL BE SAWCUT TO A CLEAN, SMOOTH EDGE.
7. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE MOST RECENT, ADOPTED EDITION OF ADA ACCESSIBILITY GUIDELINES.
8. PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED THOROUGHLY REVIEWED PLANS AND OTHER DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES.
9. CONTRACTOR IS RESPONSIBLE FOR SCHEDULING AND NOTIFYING ENGINEER OR INSPECTING AUTHORITY 48 HOURS IN ADVANCE OF COVERING UP ANY PHASE OF CONSTRUCTION REQUIRING OBSERVATION.
10. ANY WORK IN THE PUBLIC RIGHT-OF-WAY WILL REQUIRE PERMITS FROM THE APPROPRIATE, CITY, COUNTY OR STATE AGENCY CONTROLLING THE ROAD, INCLUDING OBTAINING REQUIRED INSPECTIONS.
11. ALL DIMENSIONS, GRADES & UTILITY DESIGNS SHOWN ON THE PLANS SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO PROCEEDING WITH CONSTRUCTION FOR NECESSARY PLAN OR GRADE CHANGES.
12. CONTRACTOR MUST VERIFY ALL EXISTING CONDITIONS BEFORE BIDDING AND BRING UP ANY QUESTIONS BEFOREHAND.
13. SITE GRADING SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS AND THE RECOMMENDATIONS SET FORTH BY THE GEOTECHNICAL ENGINEER.
14. CATCH SLOPES SHALL BE GRADED AS SPECIFIED ON GRADING PLANS.
15. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FLAGGING, CAUTION SIGNS, LIGHTS, BARRICADES, FLAGMEN, AND ALL OTHER DEVICES NECESSARY FOR PUBLIC SAFETY.
16. CONTRACTOR SHALL, AT THE TIME OF BIDDING AND THROUGHOUT THE PERIOD OF THE CONTRACT, BE LICENSED IN THE STATE OF UTAH AND SHALL BE BONDABLE FOR AN AMOUNT EQUAL TO OR GREATER THAN THE AMOUNT BID AND TO DO THE TYPE OF WORK CONTEMPLATED IN THE PLANS AND SPECIFICATIONS. CONTRACTOR SHALL BE SKILLED AND REGULARLY ENGAGED IN THE GENERAL CLASS AND TYPE OF WORK CALLED FOR IN THE PLANS AND SPECIFICATIONS.
17. CONTRACTOR SHALL INSPECT THE SITE OF THE WORK PRIOR TO BIDDING TO SATISFY HIMSELF BY PERSONAL EXAMINATION OR BY SUCH OTHER MEANS AS HE MAY PREFER OF THE LOCATION OF THE PROPOSED WORK AND OF THE ACTUAL CONDITIONS OF AND AT THE SITE OF WORK. IF, DURING THE COURSE OF HIS EXAMINATION, A BIDDER FINDS FACTS OR CONDITIONS WHICH APPEAR TO HIM TO BE IN CONFLICT WITH THE LETTER OR SPIRIT OF THE PROJECT PLANS AND SPECIFICATIONS, HE SHALL CONTACT THE ENGINEER FOR ADDITIONAL INFORMATION AND EXPLANATION BEFORE SUBMITTING HIS BID. SUBMISSION OF A BID BY THE CONTRACTOR SHALL CONSTITUTE ACKNOWLEDGMENT THAT, IF AWARDED THE CONTRACT, HE HAS RELIED AND IS RELYING ON HIS OWN EXAMINATION OF (1) THE SITE OF THE WORK, (2) ACCESS TO THE SITE, AND (3) ALL OTHER DATA AND MATTERS REQUISITE TO THE FULFILLMENT OF THE WORK AND ON HIS OWN KNOWLEDGE OF EXISTING FACILITIES ON AND IN THE VICINITY OF THE SITE OF THE WORK TO BE CONSTRUCTED UNDER THIS CONTRACT. THE INFORMATION PROVIDED BY THE ENGINEER IS NOT INTENDED TO BE A SUBSTITUTE FOR, OR A SUPPLEMENT TO, THE INDEPENDENT VERIFICATION BY THE CONTRACTOR TO THE EXTENT SUCH INDEPENDENT INVESTIGATION OF SITE CONDITIONS IS DEEMED NECESSARY OR DESIRABLE BY THE CONTRACTOR. CONTRACTOR SHALL ACKNOWLEDGE THAT HE HAS NOT RELIED SOLELY UPON OWNER- OR ENGINEER-FURNISHED INFORMATION REGARDING SITE CONDITIONS IN PREPARING AND SUBMITTING HIS BID.
18. CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE ALL WATER, POWER, SANITARY FACILITIES AND TELEPHONE SERVICES AS REQUIRED FOR THE CONTRACTOR'S USE DURING CONSTRUCTION.
19. CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY FIELD CHANGES MADE WITHOUT PRIOR WRITTEN AUTHORIZATION FROM THE OWNER, ENGINEER, AND/OR GOVERNING AGENCIES.
20. CONTRACTOR SHALL EXERCISE DUE CAUTION AND SHALL CAREFULLY PRESERVE BENCH MARKS, CONTROL POINTS, REFERENCE POINTS AND ALL SURVEY STAKES, AND SHALL BEAR ALL EXPENSES FOR REPLACEMENT AND/OR ERRORS CAUSED BY THEIR UNNECESSARY LOSS OR DISTURBANCE.
21. CONTRACTOR SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOBSITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR THE ENGINEER.
22. CONTRACTOR SHALL BE RESPONSIBLE FOR ADEQUATELY SCHEDULING INSPECTION AND TESTING OF ALL FACILITIES CONSTRUCTED UNDER THIS CONTRACT. ALL TESTING SHALL CONFORM TO THE REGULATORY AGENCY'S STANDARD SPECIFICATIONS. ALL TESTING AND INSPECTION SHALL BE PAID FOR BY THE OWNER; ALL RE-TESTING AND/OR RE-INSPECTION SHALL BE PAID FOR BY THE CONTRACTOR.
23. IF EXISTING IMPROVEMENTS NEED TO BE DISTURBED AND/OR REMOVED FOR THE PROPER PLACEMENT OF IMPROVEMENTS TO BE CONSTRUCTED BY THESE PLANS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING EXISTING IMPROVEMENTS FROM DAMAGE. COST OF REPLACING OR REPAIRING EXISTING IMPROVEMENTS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEMS REQUIRING REMOVAL AND/OR REPLACEMENT. THERE WILL BE NO EXTRA COST DUE TO THE CONTRACTOR FOR REPLACING OR REPAIRING EXISTING IMPROVEMENTS.
24. WHENEVER EXISTING FACILITIES ARE REMOVED, DAMAGED, BROKEN, OR CUT IN THE INSTALLATION OF THE WORK COVERED BY THESE PLANS OR SPECIFICATIONS, SAID FACILITIES SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE WITH MATERIALS EQUAL TO OR BETTER THAN THE MATERIALS USED IN THE ORIGINAL EXISTING FACILITIES. THE FINISHED PRODUCT SHALL BE SUBJECT TO THE APPROVAL OF THE OWNER, THE ENGINEER, AND THE RESPECTIVE REGULATORY AGENCY.
25. CONTRACTOR SHALL MAINTAIN A NEATLY MARKED SET OF FULL-SIZE AS-BUILT RECORD DRAWINGS SHOWING THE FINAL LOCATION AND LAYOUT OF ALL STRUCTURES AND OTHER FACILITIES. AS-BUILT RECORD DRAWINGS SHALL REFLECT CHANGE ORDERS, ACCOMMODATIONS, AND ADJUSTMENTS TO ALL IMPROVEMENTS CONSTRUCTED. WHERE NECESSARY, SUPPLEMENTAL DRAWINGS SHALL BE PREPARED AND SUBMITTED BY THE CONTRACTOR. PRIOR TO ACCEPTANCE OF THE PROJECT, THE CONTRACTOR SHALL DELIVER TO THE ENGINEER ONE SET OF NEATLY MARKED AS-BUILT RECORD DRAWINGS SHOWING THE INFORMATION REQUIRED ABOVE. AS-BUILT RECORD DRAWINGS SHALL BE REVIEWED AND THE COMPLETE AS-BUILT RECORD DRAWING SET SHALL BE CURRENT WITH ALL CHANGES AND DEVIATIONS REDLINED AS A PRECONDITION TO THE FINAL PROGRESS PAYMENT APPROVAL AND/OR FINAL ACCEPTANCE.
26. WHERE THE PLANS OR SPECIFICATIONS DESCRIBE PORTIONS OF THE WORK IN GENERAL TERMS BUT NOT IN COMPLETE DETAIL, IT IS UNDERSTOOD THAT ONLY THE BEST GENERAL PRACTICE IS TO PREVAIL AND THAT ONLY MATERIALS AND WORKMANSHIP OF THE FIRST QUALITY ARE TO BE USED.

GENERAL NOTES CONT.

27. CONTRACTOR SHALL BE SKILLED AND REGULARLY ENGAGED IN THE GENERAL CLASS AND TYPE OF WORK CALLED FOR IN THE PROJECT PLANS AND SPECIFICATIONS. THEREFORE, THE OWNER IS RELYING UPON THE EXPERIENCE AND EXPERTISE OF THE CONTRACTOR. PRICES PROVIDED WITHIN THE CONTRACT DOCUMENTS SHALL INCLUDE ALL LABOR AND MATERIALS NECESSARY AND PROPER FOR THE WORK CONTEMPLATED AND THAT THE WORK BE COMPLETED IN ACCORDANCE WITH THE TRUE INTENT AND PURPOSE OF THESE PLANS AND SPECIFICATIONS. THE CONTRACTOR SHALL BE COMPETENT, KNOWLEDGEABLE AND HAVE SPECIAL SKILLS IN THE NATURE, EXTENT AND INHERENT CONDITIONS OF THE WORK TO BE PERFORMED. CONTRACTOR SHALL ALSO ACKNOWLEDGE THAT THERE ARE CERTAIN PECULIAR AND INHERENT CONDITIONS EXISTENT IN THE CONSTRUCTION OF THE PARTICULAR FACILITIES WHICH MAY CREATE, DURING THE CONSTRUCTION PROGRAM, UNUSUAL OR UNSAFE CONDITIONS HAZARDOUS TO PERSONS, PROPERTY AND THE ENVIRONMENT. CONTRACTOR SHALL BE AWARE OF SUCH PECULIAR RISKS AND HAVE THE SKILL AND EXPERIENCE TO FORESEE AND TO ADOPT PROTECTIVE MEASURES TO ADEQUATELY AND SAFELY PERFORM THE CONSTRUCTION WORK WITH RESPECT TO SUCH HAZARDS.
28. CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL STRIPING AND/OR PAVEMENT MARKINGS NECESSARY TO TIE EXISTING STRIPING INTO FUTURE STRIPING. METHOD OF REMOVAL SHALL BE BY GRINDING OR SANDBLASTING.
29. CONTRACTOR SHALL PROVIDE ALL SHORING, BRACING, SLOPING OR OTHER PROVISIONS NECESSARY TO PROTECT WORKMEN FOR ALL AREAS TO BE EXCAVATED TO A DEPTH OF 4' OR MORE. FOR EXCAVATIONS 4 FEET OR MORE IN DEPTH, THE CONTRACTOR SHALL COMPLY WITH INDUSTRIAL COMMISSION OF UTAH SAFETY ORDERS SECTION 68 - EXCAVATIONS, AND SECTION 69 - TRENCHES, ALONG WITH ANY LOCAL CODES OR ORDINANCES.
30. ALL EXISTING GATES AND FENCES TO REMAIN UNLESS OTHERWISE NOTED ON PLANS. PROTECT ALL GATES AND FENCES FROM DAMAGE.

UTILITY NOTES

1. CONTRACTOR SHALL COORDINATE LOCATION OF NEW "DRY UTILITIES" WITH THE APPROPRIATE UTILITY COMPANY, INCLUDING BUT NOT LIMITED TO: TELEPHONE SERVICE, GAS SERVICE, CABLE, POWER, INTERNET.
2. EXISTING UTILITIES HAVE BEEN SHOWN ON THE PLANS USING A COMBINATION OF ON-SITE SURVEYS (BY OTHERS). PRIOR TO COMMENCING ANY WORK, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO HAVE EACH UTILITY COMPANY LOCATE, IN THE FIELD, THEIR MAIN AND SERVICE LINES. THE CONTRACTOR SHALL NOTIFY BLUE STAKES AT 1-800-662-4111 48 HOURS IN ADVANCE OF PERFORMING ANY EXCAVATION WORK. THE CONTRACTOR SHALL RECORD THE BLUE STAKES ORDER NUMBER AND FURNISH ORDER NUMBER TO OWNER AND ENGINEER PRIOR TO ANY EXCAVATION. IT WILL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO DIRECTLY CONTACT ANY OTHER UTILITY COMPANIES THAT ARE NOT MEMBERS OF BLUE STAKES. IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO PROTECT ALL EXISTING UTILITIES SO THAT NO DAMAGE RESULTS TO THEM DURING THE PERFORMANCE OF THIS CONTRACT. ANY REPAIRS NECESSARY TO DAMAGED UTILITIES SHALL BE PAID FOR BY THE CONTRACTOR. THE CONTRACTOR SHALL BE REQUIRED TO COOPERATE WITH OTHER CONTRACTORS AND UTILITY COMPANIES INSTALLING NEW STRUCTURES, UTILITIES AND SERVICE TO THE PROJECT.
3. CONTRACTOR SHALL POT HOLE ALL UTILITIES TO DETERMINE IF CONFLICTS EXIST PRIOR TO BEGINNING ANY EXCAVATION. NOTIFY ENGINEER OF ANY CONFLICTS. CONTRACTOR SHALL VERIFY LOCATION AND INVERTS OF EXISTING UTILITIES TO WHICH NEW UTILITIES WILL BE CONNECTED. PRIOR TO COMMENCING ANY EXCAVATION WORK THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES IN ACCORDANCE WITH THE REQUIRED PROCEDURES.
4. CARE SHOULD BE TAKEN IN ALL EXCAVATIONS DUE TO POSSIBLE EXISTENCE OF UNRECORDED UTILITY LINES. EXCAVATION REQUIRED WITHIN PROXIMITY OF EXISTING UTILITY LINES SHALL BE DONE BY HAND. CONTRACTOR SHALL REPAIR ANY DAMAGE TO EXISTING UTILITY LINES OR STRUCTURES INCURRED DURING CONSTRUCTION OPERATIONS AT HIS EXPENSE.
5. ALL VALVES AND MANHOLE COVERS SHALL BE RAISED OR LOWERED TO MEET FINISHED GRADE.
6. CONTRACTOR SHALL CUT PIPES OFF FLUSH WITH THE INSIDE WALL OF THE BOX OR MANHOLE.
7. CONTRACTOR SHALL GROUT AT CONNECTION OF PIPE TO BOX WITH NON-SHRINKING GROUT, INCLUDING PIPE VOIDS LEFT BY CUTTING PROCESS, TO A SMOOTH FINISH.
8. CONTRACTOR SHALL GROUT WITH NON-SHRINK GROUT BETWEEN GRADE RINGS AND BETWEEN BOTTOM OF INLET LID FRAME AND TOP OF CONCRETE BOX.
9. SILT AND DEBRIS IS TO BE CLEANED OUT OF ALL STORM DRAIN BOXES. CATCH BASINS ARE TO BE MAINTAINED IN A CLEANED CONDITION AS NEEDED UNTIL AFTER THE FINAL BOND RELEASE INSPECTION.
10. CONTRACTOR SHALL CLEAN ASPHALT, TAR OR OTHER ADHESIVES OFF OF ALL MANHOLE LIDS AND INLET GRATES TO ALLOW ACCESS.
11. EACH TRENCH SHALL BE EXCAVATED SO THAT THE PIPE CAN BE LAID TO THE ALIGNMENT AND GRADE AS REQUIRED. THE TRENCH WALL SHALL BE SO BRACED THAT THE WORKMEN MAY WORK SAFELY AND EFFICIENTLY. ALL TRENCHES SHALL BE DRAINED SO THAT PIPE LAYING MAY TAKE PLACE IN DEWATERED CONDITIONS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE COST OF DEWATERING AND NO COST CHANGE WILL BE PROVIDED.
12. CONTRACTOR SHALL PROVIDE AND MAINTAIN AT ALL TIMES AMPLE MEANS AND DEVICES WITH WHICH TO REMOVE PROMPTLY AND TO PROPERLY DISPOSE OF ALL WATER ENTERING THE TRENCH EXCAVATION.
13. MAINTAIN A MINIMUM 18" VERTICAL SEPARATION DISTANCE BETWEEN ALL UTILITY CROSSINGS.
14. CONTRACTOR SHALL START INSTALLATION AT LOW POINT OF ALL NEW GRAVITY UTILITY LINES.
15. ALL BOLTED FITTINGS MUST BE GREASED AND WRAPPED.
16. UNLESS SPECIFICALLY NOTED OTHERWISE, MAINTAIN AT LEAST 2 FEET OF COVER OVER ALL STORM DRAIN LINES AT ALL TIMES (INCLUDING DURING CONSTRUCTION).
17. ALL WATER LINES SHALL BE INSTALLED A MINIMUM OF 60" OF COVER TO TOP OF PIPE BELOW FINISHED GRADE.
18. ALL SEWER LINES AND SEWER SERVICES SHALL HAVE A MINIMUM SEPARATION OF 10 FEET, PIPE EDGE TO PIPE EDGE, FROM THE WATER LINES. WATER AND SEWER LINES SHALL NOT BE IN THE SAME TRENCH. IN CROSSING LOCATIONS WATER LINES SHALL BE A MINIMUM OF 18" ABOVE SEWER LINES.
19. CONTRACTOR SHALL INSTALL THRUST BLOCKING AT ALL WATERLINE ANGLE POINTS AND TEES.
20. ALL UNDERGROUND UTILITIES SHALL BE IN PLACE PRIOR TO INSTALLATION OF CURB, GUTTER, SIDEWALK AND STREET PAVING.
21. CONTRACTOR SHALL INSTALL MAGNETIC LOCATING TAPE CONTINUOUSLY OVER ALL NONMETALLIC PIPE.
22. THE CONTRACTOR SHALL NOTIFY NOLTE ASSOCIATES, INC. IN WRITING AT LEAST 48 HOURS PRIOR TO BACKFILLING OF ANY PIPE WHICH STUBS TO A FUTURE PHASE OF CONSTRUCTION FOR INVERT VERIFICATION. TOLERANCE SHALL BE IN ACCORDANCE WITH THE REGULATORY AGENCY STANDARD SPECIFICATIONS.
23. UNDER NO CIRCUMSTANCE SHALL THE PIPE OR ACCESSORIES BE DROPPED INTO THE TRENCH
24. WATER AND SEWER UTILITIES TO BE INSTALLED PER POWDER MOUNTAIN WATER & SEWER DISTRICT REQUIREMENTS.

LEGEND:

SYMBOL / LINETYPE	DESCRIPTION	DETAIL
	LIMITS OF DISTURBANCE	
W	WATER LATERAL CONNECTION	N/A
	WATER METER	APWA PLAN NO. 521
	WATER CAP/STUB	N/A
4"SS	4"ø SDR-35 PVC SEWER PIPE	APWA PLAN NO. 381, 382
8"SS	8"ø SDR-35 PVC SEWER PIPE	APWA PLAN NO. 381, 382
S	4'ø SANITARY SEWER MANHOLE	APWA PLAN NO. 411
	SANITARY SEWER CAP/STUB	N/A
6"SD	6"ø HDPE STORM DRAIN PIPE	APWA PLAN NO. 381, 382
P	ELECTRICAL CONDUIT	N/A
	ELECTRICAL PULL BOX	APWA PLAN NO. 315
8"W	EXISTING 8"ø WATER PIPE	
	EXISTING WATER LATERAL	
	EXISTING WATER VALVE	
SS	EXISTING WATER LATERAL	
8"SS HDPE	EXISTING WATER LATERAL	
S	EXISTING 4'ø SANITARY SEWER MANHOLE	
15"SD	EXISTING 15"ø STORM DRAIN PIPE	
D	EXISTING 4'ø STORM DRAIN MANHOLE	
	EXISTING STORM DRAIN CATCH BASIN	
P	EXISTING ELECTRICAL CONDUIT	
(1)4"P	EXISTING ELECTRICAL PULL BOX	
	EXISTING ELECTRICAL TRANSFORMER	
COM	EXISTING COMMUNICATIONS CONDUIT	
(1)4"COM	EXISTING COMMUNICATIONS PULL BOX	

NOTE: LEGEND MAY CONTAIN SYMBOLS THAT ARE NOT USED IN PLAN SET.

ABBREVIATION :

APWA	AMERICAN PUBLIC WORKS ASSOCIATION	MAX	MAXIMUM
AC	ASPHALTIC CONCRETE	MH	MANHOLE
&	AND	MIN	MINIMUM
APPR.	APPROXIMATELY	MSE	MECHANICALLY STABILIZED EARTH
ARV	AIR RELEASE VALVE	N	NORTH
@	AT	NIC	NOT IN CONTRACT
BDRY	BOUNDARY	NTS	NOT TO SCALE
BRG	BEARING	OC	ON CENTER
BS	BOTTOM OF STAIR/STEP	OH	OVERHEAD
BVC	BEGIN VERTICAL CURVE	PC	POINT OF CURVATURE
BW	BOTTOM OF WALL	PI	POINT OF INTERSECTION
CB	CATCH BASIN	PL	PROPERTY LINE
CL OR ℄	CENTERLINE	POC	POINT ON CURVE
CMP	CORRUGATED METAL PIPE	PP	POWER POLE
COB	CLEANOUT BOX	PRC	POINT OF REVERSE CURVE
CONC	CONCRETE	PRV	PRESSURE REDUCING VALVE
DET	DETAIL	PSI	POUNDS PER SQUARE INCH
DIA	DIAMETER	PT	POINT OF TANGENT
DIP	DUCTILE IRON PIPE	PVC	POLYVINYL CHLORIDE
DIST	DISTRICT	PU&DE	PUBLIC UTILITY & DRAINAGE EASEMENT
DWG	DRAWING	PUE	PUBLIC UTILITY EASEMENT
E	ENTRY	PVI	POINT OF VERTICAL INTERSECTION
EA	EACH	PVT	POINT OF VERTICAL TANGENT
EC	EDGE OF CONCRETE	R	RADIUS
EG	EXISTING GRADE	RCP	REINFORCED CONCRETE PIPE
EP	EDGE OF PAVEMENT	REF	REFERENCE
ER	EDGE OF ROAD	ROW	RIGHT-OF-WAY
EVC	END OF VERTICAL CURVE	SS	SANITARY SEWER
ELEV	ELEVATION	SD	STORM DRAIN
ESMT	EASEMENT	SW	SIDEWALK
EX	EXISTING	SCH	SCHEDULE
FF	FINISH FLOOR	SEC.	SECTION
FG	FINISH GRADE	SF	SQUARE FEET
FH	FIRE HYDRANT	STA	STATION
FL	FLOWLINE	STD	STANDARD
FT	FEET	TBC	TOP BACK OF CURB
GAR	GARAGE	TC	TOP OF CONCRETE
GB	GRADE BREAK	TEMP	TEMPORARY
HP	HIGH POINT	TG	TOP OF GRATE
HORIZ	HORIZONTAL	TS	TOP OF STAIR/STEP
HYD	HYDRANT	TW	TOP OF WALL
ID	INSIDE DIAMETER	TYP	TYPICAL
IE	INVERT ELEVATION	VAR	VARIES
INV	INVERT	VERT	VERTICAL
IRR	IRRIGATION	W/	WITH
L	LENGTH		
LF	LINEAR FEET		
LP	LOW POINT		

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ROCKY MOUNTIAN POWER

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REGISTERED PROFESSIONAL ENGINEER
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RYAN W. CATMEY
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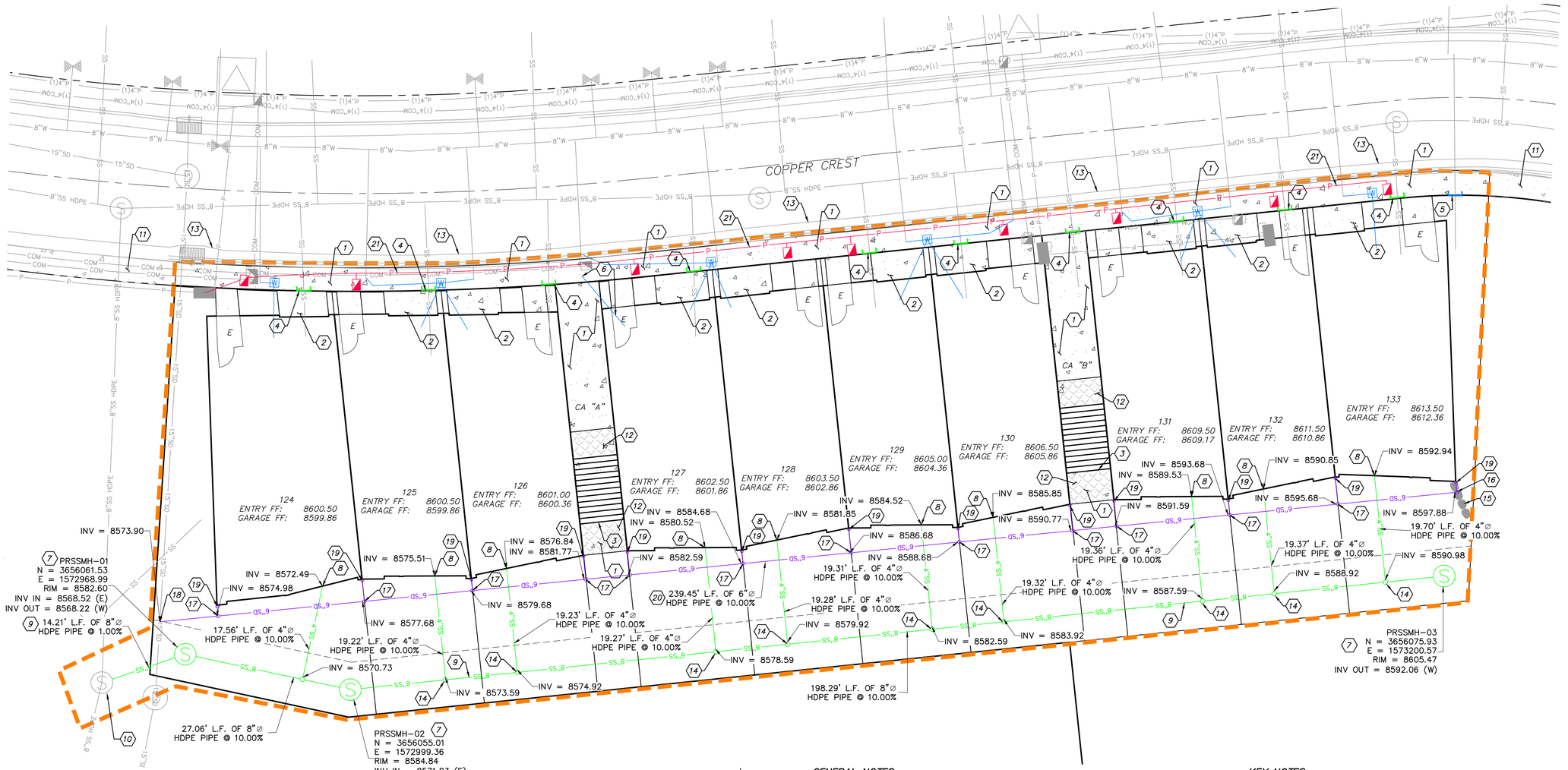

GENERAL NOTES:

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DUST MUST BE KEPT TO A MINIMUM. CONTRACTOR SHALL KEEP THE SITE WATERED TO CONTROL DUST. CONTACT POWDER MOUNTAIN WATER & SEWER IMPROVEMENT DISTRICT TO LOCATE A NEARBY HYDRANT FOR USE AND TO INSTALL TEMPORARY METER.

THE CONTRACTOR SHALL MODIFY EROSION CONTROL MEASURES TO ACCOMMODATE PROJECT PLANNING.

ALL ACCESS TO PROPERTY WILL BE FROM PUBLIC RIGHT-OF-WAYS.

THE CONTRACTOR IS REQUIRED BY STATE AND FEDERAL REGULATIONS TO PREPARE A STORM WATER POLLUTION PREVENTION PLAN AND FILE A "NOTICE OF INTENT" WITH THE UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY DIVISION OF WATER QUALITY.

ENSURE ALL GRADING SLOPES AWAY FROM STRUCTURE AT 5% FOR A MINIMUM OF 10' PER IRC R401.3

UTILITIES:

ENSURE MINIMUM BURIED DEPTH PER BUILDING CODE FOR ALL BURIED UTILITIES.

IMPROVEMENTS, INCLUDING LANDSCAPING, SHALL NOT INTERFERE WITH THE DRAINAGE CULVERT, RIP RAP, AND DRAINAGE PATTERN ASSOCIATED WITH ANY DRAINAGE EASEMENT.

KEY NOTES:

1. CONSTRUCT 6" THICK SIDEWALK PER APWA PLAN NO. 231
2. CONSTRUCT VEHICLE RATED CONCRETE DRIVEWAY.
3. CONSTRUCT CONCRETE STAIRS. SEE ARCHITECTURAL PLANS FOR DETAILS.
4. CAP AND ABANDON IN PLACE EXISTING SANITARY SEWER LATERAL.
5. CAP AND ABANDON IN PLACE EXISTING WATER LATERAL.
6. INSTALL BEND IN EXISTING WATER LINE TO ACCOMMODATE UNIT.
7. INSTALL 4'ø SANITARY SEWER MANHOLE PER APWA STANDARD PLAN NO. 411.
8. INSTALL 4"ø SANITARY SEWER LATERAL PER APWA STANDARD PLAN NO. 431 MODIFIED.
9. INSTALL 8"ø HDPE PIPE. TRENCHING AND BACKFILL PER APWA STANDARD PLAN NO. 381 AND 382.
10. CONNECT TO EXISTING SANITARY SEWER MANHOLE.
11. FUTURE SIDEWALK TO BE INSTALLED BY OTHERS.
12. LANDING. SLOPE TO NOT EXCEED 2.00% MAX IN ANY DIRECTION. SEE GRADING PLAN.
13. PROTECT IN PLACE EXISTING IMPROVEMENTS. IF DAMAGED, REPLACE PER DETAILS ON SHEETS C5.00 AND C5.01.
14. WYE CONNECT TO SANITARY SEWER PIPE.
15. ROCK RETAINED SLOPE LESS THAN 48" VERTICAL HEIGHT.
16. 6"ø 90° HDPE PIPE BEND.
17. 6"x6"x6" HDPE TEE.
18. CONNECT TO EXISTING STORM DRAIN PIPE.
19. ROOF DRAIN DOWNSPOUT CONNECTION. SEE MECHANICAL PLANS FOR DETAIL.
20. INSTALL 6" HDPE PIPE. TRENCHING AND BACKFILL PER APWA STANDARD PLAN NO. 381 AND 382.
21. INSTALL ELECTRICAL CONDUITS AND PULL BOXES PER ELECTRICAL PLANS. CONTRACTOR TO FIELD VERIFY EXISTING ELECTRICAL EQUIPMENT LOCATIONS ON SITE PRIOR TO CONSTRUCTION.

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REGISTERED PROFESSIONAL ENGINEER
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5/30/17
STATE OF UTAH

c2.00
OVERALL SITE & UTILITY PLAN

1"=10'
scale

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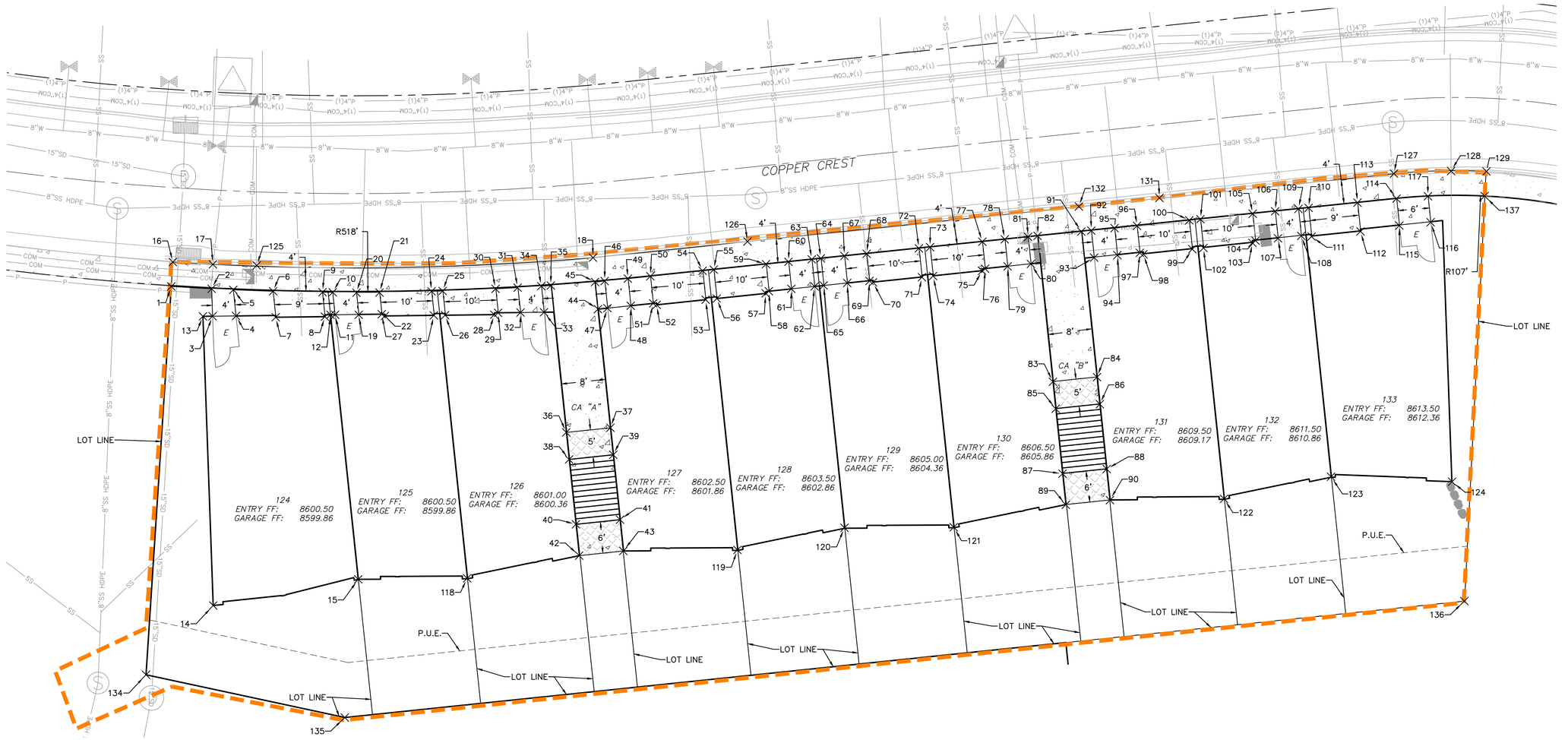

Point Table		
Point #	Northing	Easting
1	3656129.25	1572967.12
2	3656128.82	1572974.55
3	3656123.78	1572974.73
4	3656123.83	1572979.04
5	3656128.64	1572978.54
6	3656128.38	1572985.87
7	3656123.59	1572986.34
8	3656123.70	1572995.39
9	3656128.19	1572994.95
10	3656128.18	1572996.83
11	3656124.05	1572997.26
12	3656124.04	1572996.42
13	3656123.76	1572972.95
14	3656070.56	1572974.84
15	3656075.37	1573001.53
16	3656133.74	1572967.42
17	3656133.32	1572974.78
18	3656134.55	1573044.71
19	3656124.05	1573001.61
20	3656128.11	1573001.18
21	3656128.13	1573005.44
22	3656123.83	1573006.42
23	3656123.93	1573015.43
24	3656128.36	1573015.00
25	3656128.42	1573017.05
26	3656123.96	1573017.49
27	3656124.15	1573005.84
28	3656124.07	1573026.54

Point Table		
Point #	Northing	Easting
29	3656124.41	1573027.24
30	3656128.82	1573026.78
31	3656129.04	1573030.84
32	3656124.46	1573031.37
33	3656124.51	1573035.69
34	3656129.31	1573035.19
35	3656129.43	1573036.95
36	3656102.40	1573039.78
37	3656103.26	1573047.91
38	3656097.43	1573040.31
39	3656098.28	1573048.43
40	3656085.50	1573041.56
41	3656086.35	1573049.68
42	3656079.73	1573042.16
43	3656080.59	1573050.29
44	3656125.08	1573045.62
45	3656130.06	1573045.09
46	3656130.25	1573046.84
47	3656125.26	1573047.37
48	3656125.71	1573051.64
49	3656130.70	1573051.12
50	3656131.13	1573055.25
51	3656126.14	1573055.78
52	3656125.88	1573056.42
53	3656126.82	1573065.43
54	3656132.14	1573064.87
55	3656132.35	1573066.92
56	3656127.04	1573067.48

Point Table		
Point #	Northing	Easting
57	3656127.98	1573076.48
58	3656128.38	1573077.06
59	3656133.36	1573076.53
60	3656133.79	1573080.67
61	3656128.81	1573081.19
62	3656129.26	1573085.47
63	3656134.24	1573084.95
64	3656134.42	1573086.62
65	3656129.44	1573087.15
66	3656129.89	1573091.48
67	3656134.87	1573090.96
68	3656135.26	1573095.05
69	3656130.28	1573095.57
70	3656130.01	1573096.22
71	3656130.96	1573105.22
72	3656136.27	1573104.66
73	3656136.48	1573106.71
74	3656131.17	1573107.27
75	3656132.12	1573116.27
76	3656132.51	1573116.85
77	3656137.49	1573116.33
78	3656137.92	1573120.46
79	3656132.95	1573120.98
80	3656133.40	1573125.26
81	3656138.37	1573124.74
82	3656138.55	1573126.49
83	3656111.72	1573129.31
84	3656112.57	1573137.43

Point Table		
Point #	Northing	Easting
85	3656106.75	1573129.83
86	3656107.60	1573137.95
87	3656094.81	1573131.08
88	3656095.67	1573139.20
89	3656089.09	1573131.68
90	3656089.95	1573139.81
91	3656139.34	1573134.54
92	3656139.53	1573136.37
93	3656134.56	1573136.90
94	3656135.01	1573141.18
95	3656139.98	1573140.65
96	3656140.41	1573144.79
97	3656135.44	1573145.31
98	3656135.17	1573145.95
99	3656136.12	1573154.96
100	3656141.42	1573154.40
101	3656141.63	1573156.45
102	3656136.33	1573157.01
103	3656137.28	1573166.01
104	3656137.68	1573166.59
105	3656142.64	1573166.07
106	3656143.08	1573170.20
107	3656138.11	1573170.72
108	3656138.56	1573175.00
109	3656143.52	1573174.48
110	3656143.72	1573176.35
111	3656138.43	1573176.90
112	3656139.37	1573185.90

Point Table		
Point #	Northing	Easting
113	3656144.66	1573185.35
114	3656145.41	1573192.53
115	3656140.46	1573193.04
116	3656141.06	1573198.81
117	3656145.84	1573198.30
118	3656075.56	1573021.56
119	3656080.78	1573071.28
120	3656084.86	1573090.97
121	3656084.96	1573111.06
122	3656090.18	1573160.79
123	3656094.25	1573180.47
124	3656093.33	1573202.74
125	3656133.13	1572982.85
126	3656137.51	1573073.13
127	3656150.00	1573192.05
128	3656150.48	1573202.56
129	3656150.42	1573209.07
131	3656145.54	1573148.92
132	3656143.95	1573134.09
134	3656057.82	1572962.48
135	3656049.95	1572999.04
136	3656071.37	1573205.00
137	3656145.89	1573208.73

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SCALE
HORIZONTAL: 1" = 10'

c2.01
HORIZONTAL CONTROL PLAN

1"=10'
scale

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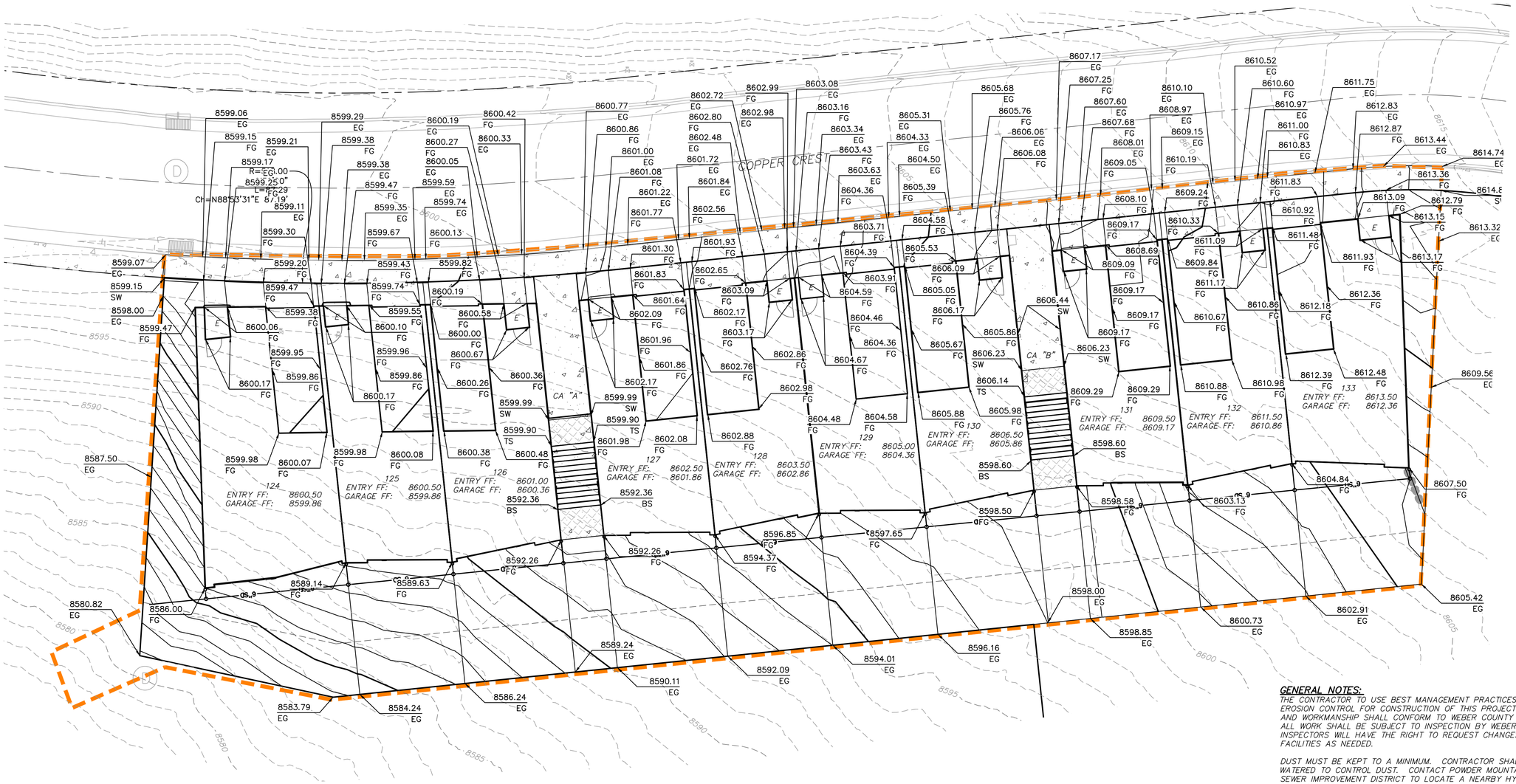

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SCALE
HORIZONTAL: 1" = 10'
0 5 10 20 30

LEGEND

BW	BOTTOM OF WALL
TW	TOP OF WALL
EG	EXISTING GROUND
FL	FLOWLINE
FT	FEET
LF	LINEAR FEET
LP	LOW POINT
FG	FINISHED GRADE
BS	BOTTOM OF STAIRS
TS	TOP OF STAIRS
SW	SIDEWALK

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c3.00
OVERALL GRADING PLAN

1"=10'
scale

SUBMITTAL SET
phase / rev

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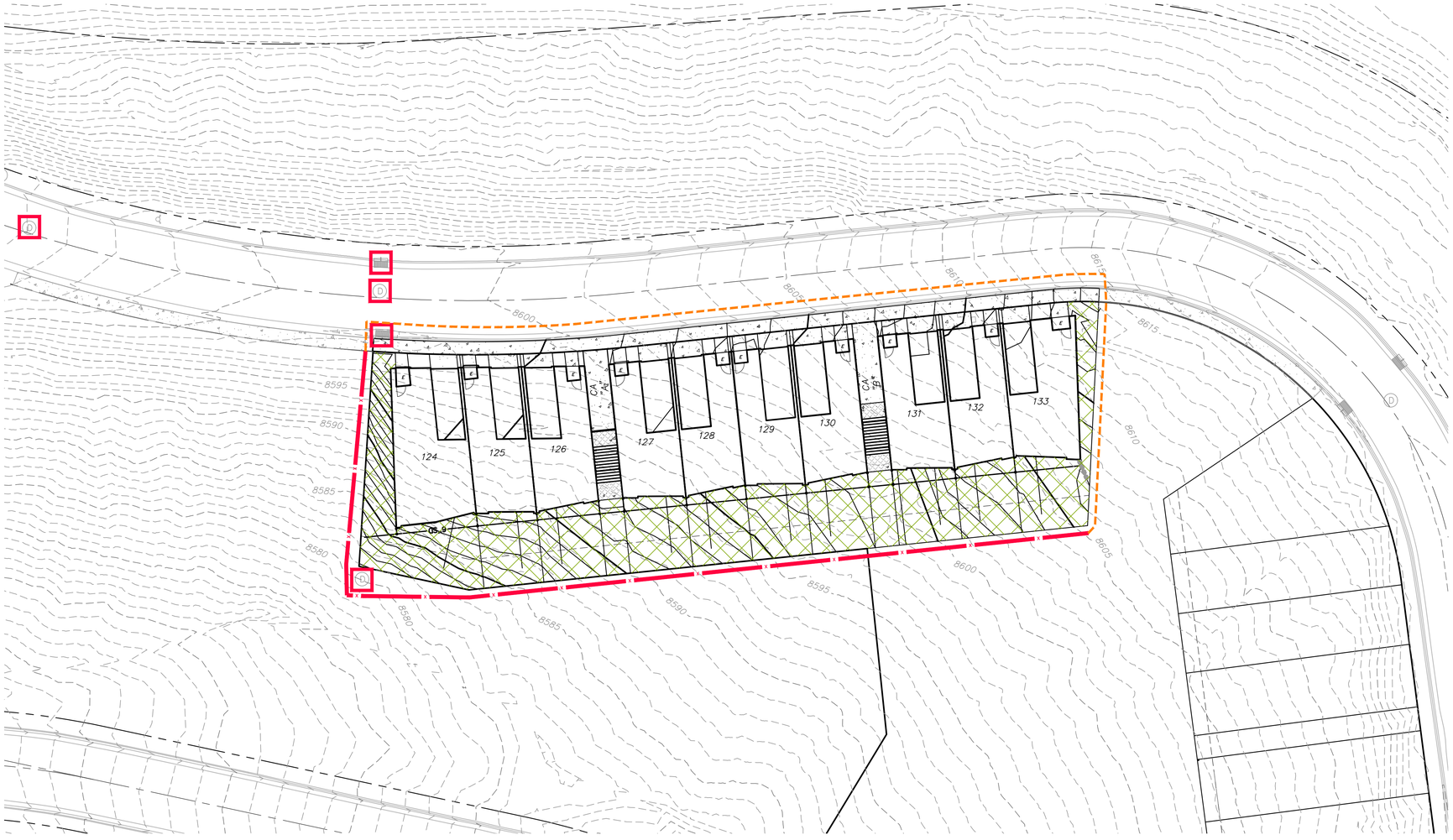

EROSION CONTROL GENERAL NOTES:

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CONTRACTOR SHALL KEEP THE SITE WATERED TO CONTROL DUST. CONTRACTOR TO LOCATE A NEARBY HYDRANT FOR USE AND TO INSTALL TEMPORARY METER. CONSTRUCTION WATER COST TO BE INCLUDED IN BID.

WHEN GRADING OPERATIONS ARE COMPLETED AND THE DISTURBED GROUND IS LEFT "OPEN" FOR 14 DAYS OR MORE, THE AREA SHALL BE FURROWED PARALLEL TO THE CONTOURS.

THE CONTRACTOR SHALL MODIFY EROSION CONTROL MEASURES TO ACCOMMODATE PROJECT PLANNING.

ALL ACCESS TO PROPERTY WILL BE FROM PUBLIC RIGHT-OF-WAYS.

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MAINTENANCE:

ALL BEST MANAGEMENT PRACTICES (BMP'S) SHOWN ON THIS PLAN MUST BE MAINTAINED AT ALL TIMES UNTIL VEGETATION IS RE-ESTABLISHED.

THE CONTRACTOR'S RESPONSIBILITY SHALL INCLUDE MAKING BI-WEEKLY CHECKS ON ALL EROSION CONTROL MEASURES TO DETERMINE IF REPAIR OR SEDIMENT REMOVAL IS NECESSARY. CHECKS SHALL BE DOCUMENTED AND COPIES OF THE INSPECTIONS KEPT ON SITE.

SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH RAINFALL. THEY MUST BE REMOVED WHEN THE LEVEL OF DEPOSITION REACHES APPROXIMATELY ONE-HALF THE HEIGHT OF BARRIER.

SEDIMENT TRACKED ONTO PAVED ROADS MUST BE CLEANED UP AS SOON AS PRACTICAL, BUT IN NO CASE LATER THAN THE END OF THE NORMAL WORK DAY. THE CLEAN UP WILL INCLUDE SWEEPING OF THE TRACKED MATERIAL, PICKING IT UP, AND DEPOSITING IT TO A CONTAINED AREA.

EXPOSED SLOPES:

ANY EXPOSED SLOPE THAT WILL REMAIN UNTOUCHED FOR LONGER THAN 14 DAYS MUST BE STABILIZED BY ONE OR MORE OF THE FOLLOWING METHODS:

A) SPRAYING DISTURBED AREAS WITH A TACKIFIER VIA HYDROSEED
B) TRACKING STRAW PERPENDICULAR TO SLOPES
C) INSTALLING A LIGHT-WEIGHT, TEMPORARY EROSION CONTROL BLANKET

SCOPE OF WORK:

PROVIDE, INSTALL AND/OR CONSTRUCT THE FOLLOWING PER THE SPECIFICATIONS GIVEN OR REFERENCED. THE DETAILS NOTED, AND/OR AS SHOWN ON THE CONSTRUCTION DRAWINGS:

HATCHING INDICATES AREAS TO RECEIVE 4" TOPSOIL AND TO BE SEEDED FOR NATURAL VEGETATION. AREAS RECEIVING SEEDING FOR NATURAL REVEGETATION MUST BE COVERED WITH AN EROSION CONTROL BLANKET AFTER THE FINAL GRADING AND SEEDING ARE FINISHED. INSTALL NORTH AMERICAN GREEN SC-150 BLANKET OR APPROVED EQUAL. FOLLOW MANUFACTURER'S SPECIFICATIONS. INSTALL NORTH AMERICAN GREEN P300 EROSION CONTROL BLANKET ON ALL SLOPES GREATER THAN 1.5:1.

INSTALL INLET PROTECTION IN FORM OF CONCRETE BLOCKS / FILTER CLOTH / GRAVEL OR SILT SACK AT EXISTING AND PROPOSED CATCH BASINS AS SHOWN ON PLAN. SEE EROSION CONTROL DETAILS SHEET 5.05

INSTALL SILT FENCE ALONG DOWN GRADIENT LIMITS OF DISTURBANCE AS SHOWN ON PLAN. SEE EROSION CONTROL DETAILS SHEET 5.05

INSTALL ORANGE SAFETY FENCING AROUND OUTER LIMITS OF PROJECT PRIOR TO GRADING.

* SEED MIXTURE FOR REVEGITATION
40% MOUNTAIN BROME (BROMUS MARGINATUS)
25% SLENDER WHEATGRASS (ELYMUS TRACHYCAULUS SSP. TRACHYCAULUS)
5% SHEEP FESCUE (FESTUCA OVINA SPP. DURIUSCULA)
5% ALPINE BLUEGRASS (POA ALPINE)
25% THICKSPIKE WHEATGRASS (ELYMUS LANCEOLATUS SSP. LANCEOLATUS)

SEEDING RATE IS 40 POUNDS PER ACRE.

SCALE
HORIZONTAL 0 10 20 40 80

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EROSION CONTROL PLAN

1"=20'
scale

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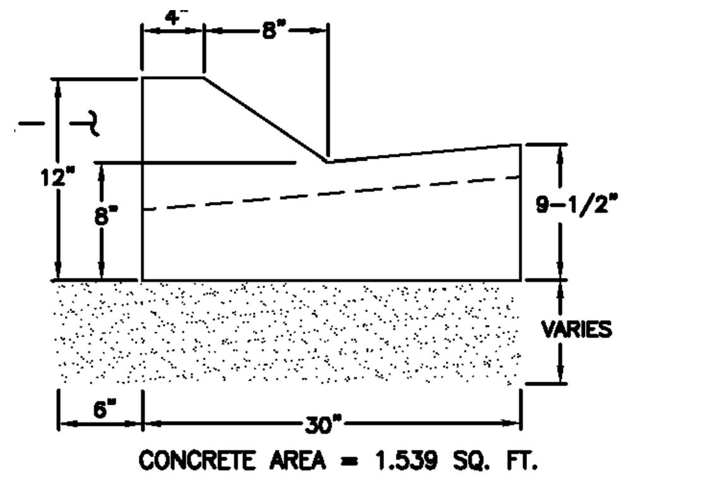


Type F

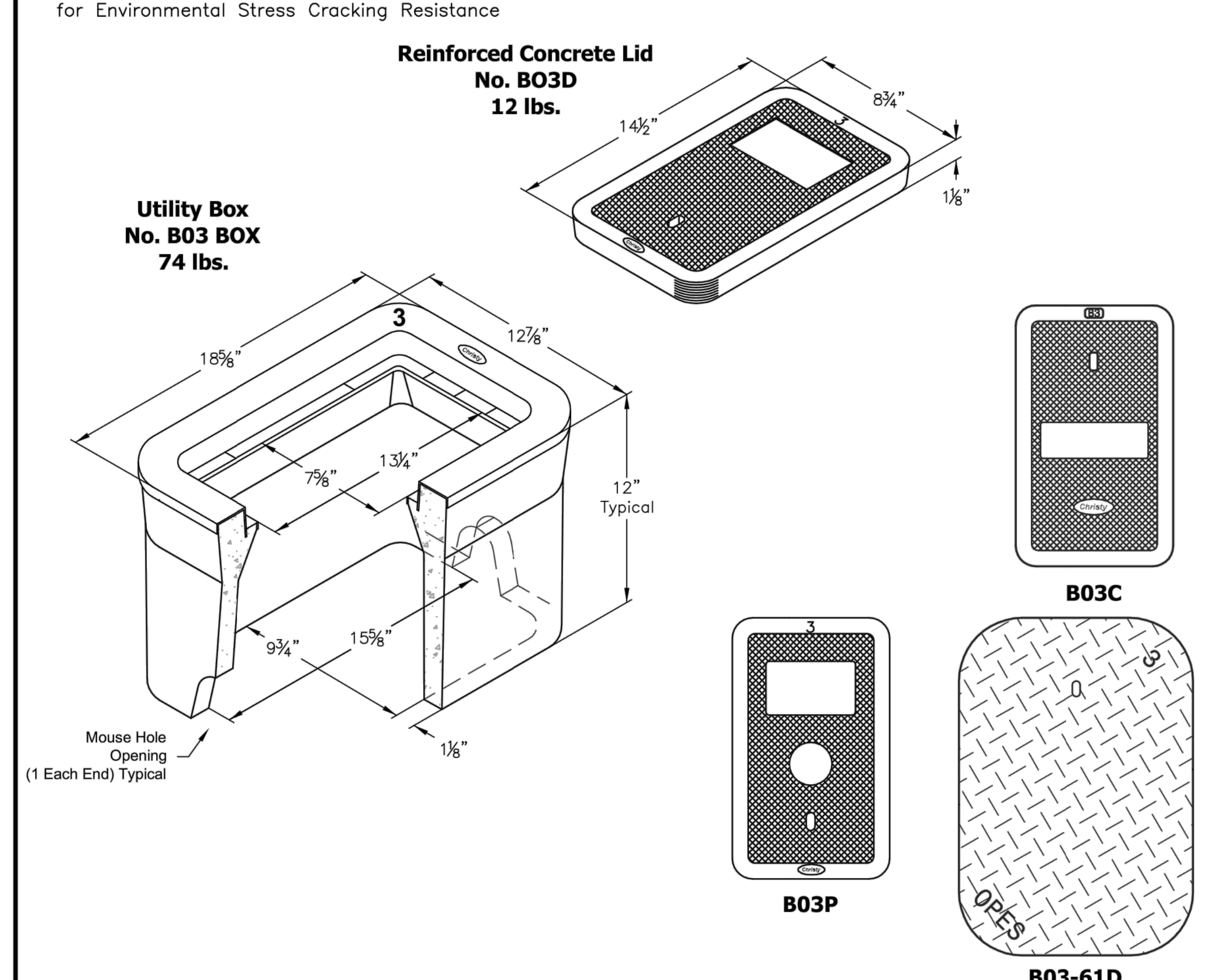
Curb and gutter

1. **GENERAL**
   A. Variance from specified dimensions and slopes must be acceptable to the ENGINEER. System configuration may be changed at ENGINEER's discretion.
   B. Additional requirements are specified in APWA Section 32 16 13.

2. **PRODUCTS**
   A. Base Course: Untreated base course, APWA Section 32 11 23. Do not use gravel as a base course without ENGINEER's permission.
   B. Expansion Joint Filler: 1/2-inch thick type F1 full depth, APWA Section 32 13 73.
   C. Concrete: Class 4000, APWA Section 03 30 04. If necessary, provide concrete that achieves design strength in less than 7 days. Use caution; however, as concrete crazing (spider cracks) may develop if air temperature exceeds 90 degrees F.
   D. Concrete Curing Agent: Clear membrane forming compound with fugitive dye (Type ID Class A), APWA Section 03 39 00.

3. **EXECUTION**
   A. Base Course Placement: APWA Section 32 05 10. Thickness is 6-inches if flow-line grade is 0.5 percent (s=0.005) or greater. If slope is less, provide 8-inches. Maximum lift thickness before compaction is 8-inches when using riding equipment or 6-inches when using hand held equipment. Compaction is 95 percent or greater relative to a modified proctor density, APWA Section 31 23 26.
   B. Concrete Placement: APWA Section 03 30 10.
      1) Install expansion joints vertical, full depth, with top of filler set flush with concrete surface. Install at the start or end of a street intersection curb return. Expansion joints are not required in concrete placement using slip-form construction.
      2) Install contraction joints vertical, 1/8-inch wide or 1/4 slab thickness if the slab is greater than 8-inches thick. Match joint location in adjacent Portland-cement concrete roadway pavement.
      3) Provide 1/2-inch radius edges. Apply a broom finish. Apply a curing agent.
   C. Protection and Repair: Protect concrete from deicing chemicals during cure. Repair construction that does not drain. If necessary, fill flow-line with water to verify.

- Etched polypropylene face
- Face anchored in concrete
- Ultra-violet inhibitor
- Exceeds ASTM-D1693 Standards for Environmental Stress Cracking Resistance



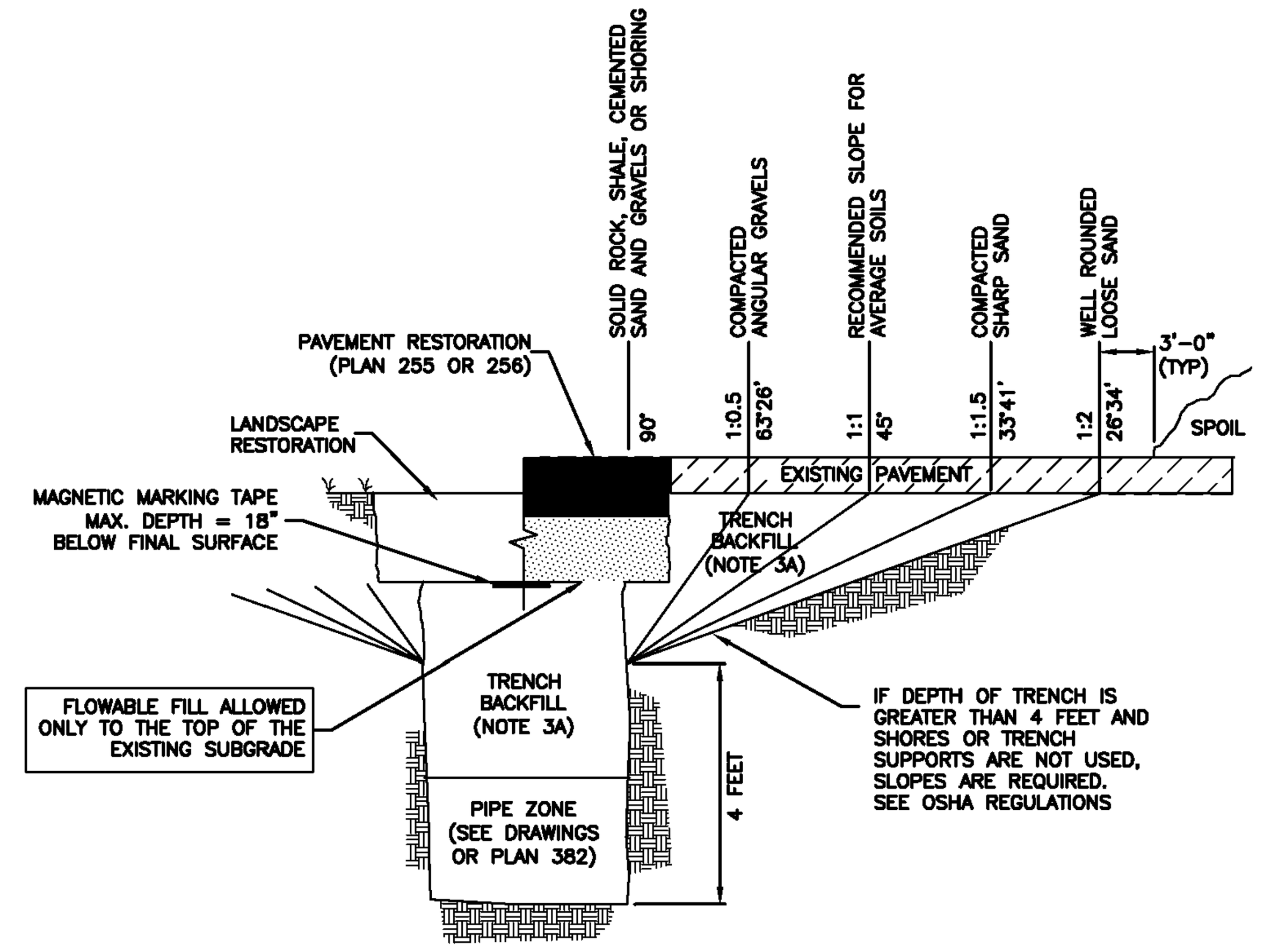
A high density reinforced concrete box with non-settling shoulders positioned to maintain grade and facilitate back filling. Approximate dimensions and weight shown.

Oldcastle Ordering Code	Item	Approx. Shipping Weight	Description
B03BOX	BOX	74 lbs.	B03 Utility Box (9¾" x 15⅝") – 28 per pallet
B03C	LID	13 lbs.	Cast Iron Lid
B03D	LID	12 lbs.	Reinforced Concrete Lid
B03TL	LID	15 lbs.	Cast Iron Lid with Lock
BUTLK	KEY	1 lbs.	Universal TL Key for Cast Iron Lids with Lock
B03–61D	COVER	14 lbs.	Steel Checker Plate Cover
B03SL	SLAB	22 lbs.	Reinforced Concrete Slab (12⅛" x 18⅝")
Galvanizing available on all steel covers.			

Oldcastle® Enclosure Solutions
Phone: (800) 486–7070 Fax: (800) 486–6804

B03 BOX
FILE NAME: B03_ISO
ISSUE DATE: January, 2011
www.oldcastleprecast.com

B03 UTILITY BOX 9-3/4" x 15-5/8"
CHRISTY Concrete



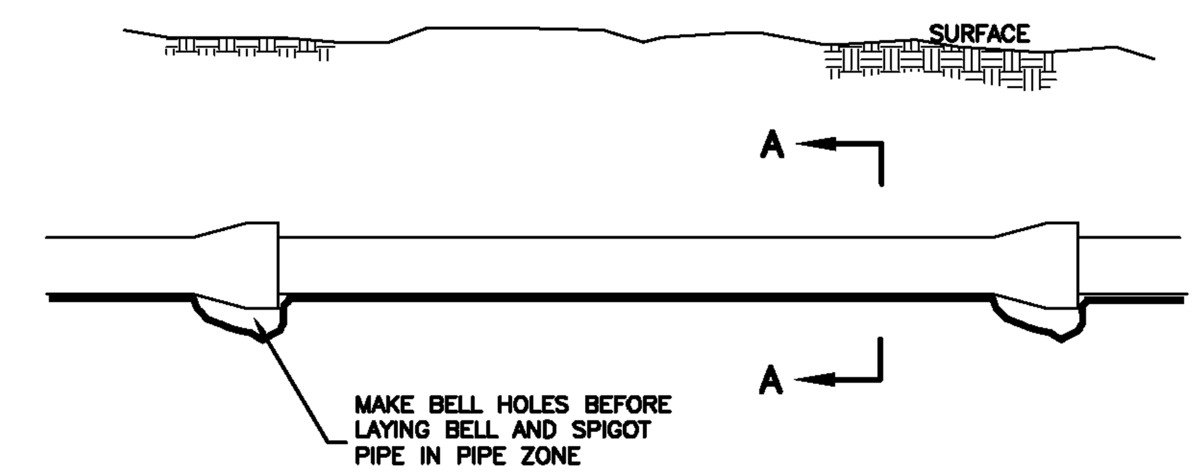
Trench backfill Plan **381**

Trench backfill

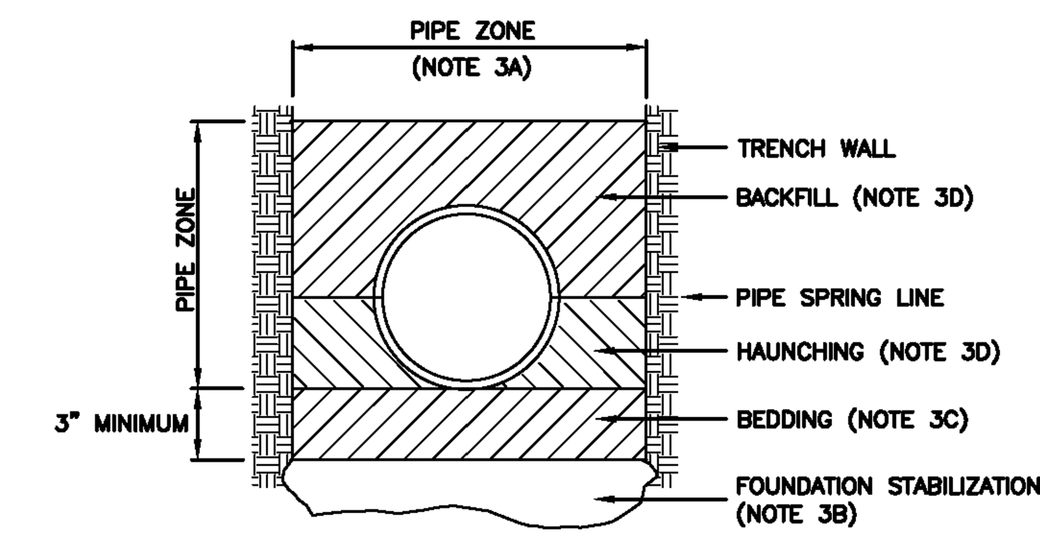
1. **GENERAL**
   A. The drawing applies to backfilling the trench above the pipe zone.

2. **PRODUCTS**
   A. Backfill: Common fill, APWA Section 31 05 13. Maximum particle size 3-inches.
   B. Flowable Fill: Target is 60 psi in 28 days with 90 psi maximum in 28 days, APWA Section 31 05 15. It must flow easily requiring no vibration for consolidation.

3. **EXECUTION**
   A. Trench Backfill:
      1) DO NOT USE sewer rock, pea gravel, or recycled RAP aggregate as trench backfill.
      2) Maximum lift thickness is 8-inches before compaction. Compaction is 95 percent or greater relative to a standard proctor density, APWA Section 31 23 26.
      3) Water jetting is NOT allowed.
      4) Submission of quality control compaction test result data developed for haunching areas may be requested by ENGINEER at any time. Provide results of tests immediately upon request.
   B. Flowable Fill: When required, place controlled low strength material in the trench, APWA Section 31 05 15. Cure the fill before placing surface restorations.
   C. Surface Restoration:
      1) Landscaped Surface: Rake to match existing grade. Replace vegetation to match pre-construction conditions. Follow APWA Section 32 92 00 (turf or grass) or APWA Section 32 93 13 (ground cover) requirements.
      2) Paved Surface: Do not install asphalt or concrete surfacing until trench compaction is acceptable to ENGINEER. Follow APWA Section 33 05 25 (asphalt surfacing), or APWA Section 33 05 25 (concrete surfacing).



ELEVATION VIEW



SECTION A–A

INSTALLATION

CONCRETE PIPE: FOLLOW ASTM C 1479
"STANDARD PRACTICE FOR INSTALLATION OF PRECAST CONCRETE SEWER, STORM DRAIN, AND CULVERT PIPE USING STANDARD INSTALLATIONS.

PVC AND HDPE PIPE: FOLLOW ASTM D 2321
"STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY–FLOW APPLICATIONS"

CORRUGATED METAL PIPE: FOLLOW ASTM A 798
"STANDARD PRACTICE FOR INSTALLING FACOTRY–MADE CORRUGATED STEEL PIPE FOR SEWERS AND OTHER APPLICATIONS.

VITRIFIED CLAY PIPE: FOLLOW ASTM C 12.
"STANDARD RECOMMENDED PRACTICE FOR INSTALLING VITRIFIED CLAY PIPE LINES.

Pipe zone backfill Plan **382**

Pipe zone backfill

1. **GENERAL**
   A. Install the pipe in the center of the trench or no closer than 6-inches from the wall of the pipe to the wall of the trench.

2. **PRODUCTS**
   A. Base Course: Untreated base course, APWA Section 32 11 23. Do not use gravel as a base course without ENGINEER's permission.
   B. Backfill: Common fill, APWA Section 31 05 13. Maximum particle size 2-inches.
   C. Concrete: APWA Section 03 30 04.
   D. Flowable Fill: Target is 60 psi in 28 days with 90 psi maximum in 28 days, APWA Section 31 05 15. It must flow easily requiring no vibration for consolidation.
   E. Stabilization-Separation Geotextile: Moderate or high at CONTRACTOR's choice, APWA Section 31 05 19.

3. **EXECUTION**
   A. Excavate the Pipe Zone: Width is measured at the pipe spring line and includes any necessary sheathing. Provide width recommended by pipe manufacturer. Follow manufacturer's recommendations when using trench boxes.
   B. Foundation Stabilization: Get ENGINEER's permission before installing common fill. Vibrate to stabilize. Installation of stabilization-separation geotextile will be required to separate backfill material and native subgrade materials if common fill cannot provide a working surface or prevent soils migration.
   C. Base Course:
      1) Furnish untreated base course material unless specified otherwise by pipe manufacturer.
      2) Maximum lift thickness is 8-inches before compaction. Compaction is 95 percent or greater relative to a modified proctor density, APWA Section 31 23 26.
      3) When using concrete, provide at least Class 2,000 per APWA Section 03 30 04.
   D. Pipe Zone: DO NOT USE sewer rock, pea gravel, or recycled RAP aggregate in the pipe zone. Water jetting is NOT allowed.
      1) Maximum lift thickness is 8-inches before compaction. Compaction is 95 percent or greater relative to a modified proctor density, APWA Section 31 23 26 unless pipe manufacturer requires more stringent installation.
      2) Submission of quality control compaction test result data developed for the haunch zone may be requested by ENGINEER at any time. CONTRACTOR is to provide results of tests immediately upon request.
   E. Flowable Fill (when required and if allowed by pipe manufacturer):
      1) Place the controlled low strength material, APWA Section 31 05 15.
      2) Prevent pipe flotation by installing in lifts and providing pipe restraints as required by pipe manufacturer.
      3) Reset pipe to line and grade if pipe "floats" out of position.

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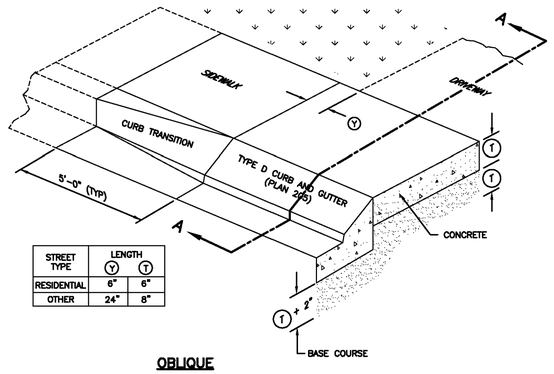
c5.00
MISC. DETAILS

N/A
scale

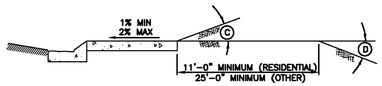
SUBMITTAL SET
phase / rev

2017.05.30
date



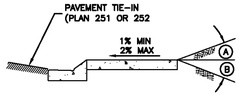
STREET TYPE	LENGTH Y	LENGTH T
RESIDENTIAL	6"	6"
OTHER	24"	8"

OBLIQUE



STREET TYPE	BREAK OVER ANGLE (MAXIMUM) C	BREAK OVER ANGLE (MAXIMUM) D
RESIDENTIAL	16%	13%
OTHER	6%	10%

SECTION A–A – APPROACH REQUIRING SERVICE TRUCK ACCESS



STREET TYPE	BREAK OVER ANGLE (MAXIMUM) A	BREAK OVER ANGLE (MAXIMUM) B
RESIDENTIAL	16%	12%
OTHER	6%	8%

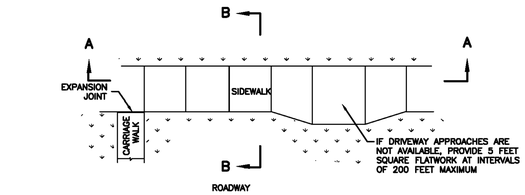
SECTION A–A – TYPICAL DRIVEWAY APPROACH

Mountable curb driveway approach

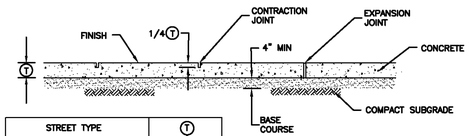
1. **GENERAL**
   A. Variance from specified dimensions and slopes must be acceptable to the ENGINEER. System configuration may be changed at ENGINEER's discretion.
   B. Additional requirements are specified in APWA Section 32 16 13.

2. **PRODUCTS**
   A. Base Course: Untreated base course, APWA Section 32 11 23. Do not use gravel as a base course without ENGINEER's permission.
   B. Expansion Joint Filler: 1/2-inch thick type F1 full depth, APWA Section 32 13 73.
   C. Concrete: Class 4000, APWA Section 03 30 04. If necessary, provide concrete that achieves design strength in less than 7 days. Use caution; however, as concrete crazing (spider cracks) may develop if air temperature exceeds 90 degrees F.
   D. Reinforcement: Galvanized or epoxy coated, deformed, 60 ksi yield grade steel, ASTM A 615.
   E. Concrete Curing Agent: Clear membrane forming compound with fugitive dye (Type ID Class A), APWA Section 03 39 00.

3. **EXECUTION**
   A. Base Course Placement: APWA Section 32 05 10. Maximum lift thickness before compaction is 8-inches when using riding equipment or 6-inches when using hand held equipment. Compaction is 95 percent or greater relative to a modified proctor density, APWA Section 31 23 26.
   B. Concrete Placement: APWA Section 03 30 10.
      1) Install expansion joints vertical, full depth, with top of filler set flush with concrete surface.
      2) Install contraction joints vertical, 1/8-inch wide or 1/4 slab thickness if the slab is greater than 8-inches thick. Maximum length to width ratio for non-square panels is 1.5 to 1. Maximum panel length (in feet) is 1.5 times the slab thickness (in inches).
      3) Provide 1/2-inch radius edges. Apply a broom finish. Apply a curing agent.
   C. Protection and Repair: Protect concrete from deicing chemicals during cure. Repair construction that does not drain. If necessary, fill flow-line with water to verify.



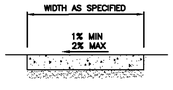
PLAN



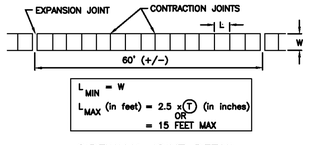
STREET TYPE	T
RESIDENTIAL (WITH PARK STRIP)	4"
RESIDENTIAL (NO PARK STRIP)	6"
OTHER	
REPLACING EXISTING SIDEWALK	MATCH EXISTING (4" MIN.)

SEE DRIVEWAY APPROACH PLANS FOR SIDEWALK THICKNESS AT DRIVEWAYS

SECTION A–A



SECTION B–B



SIDEWALK JOINT DETAIL

Sidewalk

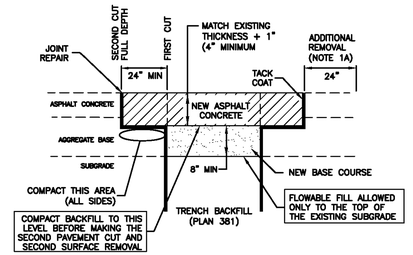
1. **GENERAL**
   A. Variance from specified dimensions and slopes must be acceptable to the ENGINEER. System configuration may be changed at ENGINEER's discretion.
   B. Additional requirements are specified in APWA Section 32 16 13.

2. **PRODUCTS**
   A. Base Course: Untreated base course, APWA Section 32 11 23. Do not use gravel as a base course without ENGINEER's permission.
   B. Expansion Joint Filler: 1/2-inch thick type F1 full depth, APWA Section 32 13 73.
   C. Concrete: Class 4000, APWA Section 03 30 04. If necessary, provide concrete that achieves design strength in less than 7 days. Use caution; however, as concrete crazing (spider cracks) may develop if air temperature exceeds 90 degrees F.
   D. Concrete Curing Agent: Clear membrane forming compound with fugitive dye (Type ID Class A), APWA Section 03 39 00.

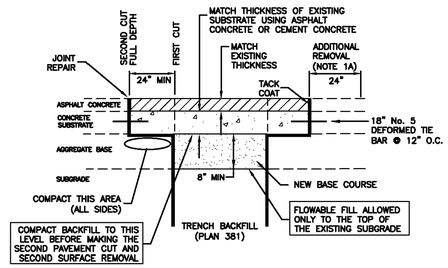
3. **EXECUTION**
   A. Base Course Placement: APWA Section 32 05 10. Maximum lift thickness before compaction is 8-inches when using riding equipment or 6-inches when using hand held equipment. Compaction is 95 percent or greater relative to a modified proctor density, APWA Section 31 23 26.
   B. Concrete Placement: APWA Section 03 30 10.
      1) Install expansion joints vertical, full depth, with top of filler set flush with concrete surface.
      2) Install contraction joints vertical, 1/8-inch wide or 1/4 slab thickness if the slab is greater than 8-inches thick. Maximum length to width ratio for non-square panels is 1.5 to 1. Maximum panel length (in feet) is 1.5 times the slab thickness (in inches).
      3) Provide 1/2-inch radius edges. Apply a broom finish. Apply a curing agent.

SHALLOW EXCAVATION

(LESS THAN 48 INCHES FROM PAVEMENT SURFACE TO BOTTOM OF EXCAVATION)



ASPHALT RESTORATION



COMPOSITE RESTORATION

Asphalt concrete T-patch

1. **GENERAL**
   A. If a saw cut in the direction of vehicular travel is in a wheel path, consult ENGINEER for directions on removing additional pavement other than the amount shown on the drawing.

2. **PRODUCTS**
   A. Base Course: Untreated base course, APWA Section 32 11 23. Do not use gravel as a base course without ENGINEER's permission.
   B. Flowable Fill: Target is 60 psi in 28 days with 90 psi maximum in 28 days, APWA Section 31 05 15. It must flow easily requiring no vibration for consolidation.
   C. Reinforcement. No. 5, Galvanized or epoxy coated, deformed, 60 ksi yield grade steel, ASTM A 615.
   D. Concrete: Class 4000, APWA Section 03 30 04.
   E. Tack Coat: APWA Section 32 12 13.13.
   F. Asphalt Concrete . APWA Section 32 12 05.
      1) Warm Weather Patch: AC-20-DM-1/2, unless indicated otherwise.
      2) Cold Weather Patch: Modified MC-250-FM-1 as indicated in APWA Section 33 05 25.

3. **EXECUTION**
   A. Base Course Placement: APWA Section 32 05 10. Maximum lift thickness before compaction is 8-inches when using riding equipment or 6-inches when using hand held equipment. Compaction is 95 percent or greater relative to a modified proctor density, APWA Section 31 23 26
   B. Flowable Fill: Cure to initial set before placing aggregate base or asphalt pavement. Use in excavations that are too narrow to receive compaction equipment.
   C. Tack Coat. Clean all horizontal and vertical surfaces. Apply full coverage.
   D. Asphalt Pavement. Match existing thickness plus 1 inch but not More than 6-inches in residential thoroughfares or 8-inches non residential thoroughfares. Install in lifts no greater than 3-inches after compaction. Compact to 94 percent of ASTM D 2041 (Rice density) plus or minus 2 percent. If asphalt pavement is substituted for concrete substrate, omit rebar and provide 1.25 inches of pavement for each 1 inch of concrete substrate substituted.
   E. Reinforcement. Required if thickness of existing Portland-cement concrete substrate is 6-inches or greater. Not required if (1) less than 6-inches thick, (2) if existing concrete is deteriorating, (3) if excavation is less than 3 feet square, or (4) if asphalt pavement is substituted for Portland-cement concrete substrate.
   F. Concrete Substrate. Cure to initial set before placing new asphalt concrete patch.
   G. Joint Repair: If a crack occurs at a connection to an existing pavement or at any street fixture, flush seal the crack per Plan 265.
   H. Patch Repair: Repair patch if any of the following conditions within the patch occur.
      1) Pavement surface distortion exceeds 1/4-inch deviation in 10 feet. Repair option: Plane off surface distortions. Coat planed surfaces with a cationic or anionic emulsion that complies with APWA Section 32 12 03.
      2) Cracks at least 1-foot long and 1/4-inch wide occur more often than 1 in 10 square feet. Repair option: Crack seal.
      3) Asphalt raveling is greater than 1 square foot per 100 square feet. Repair option: Mill and inlay.

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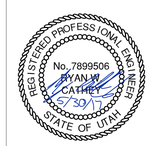

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MISC.DETAILS

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scale

SUBMITTAL SET
phase / rev

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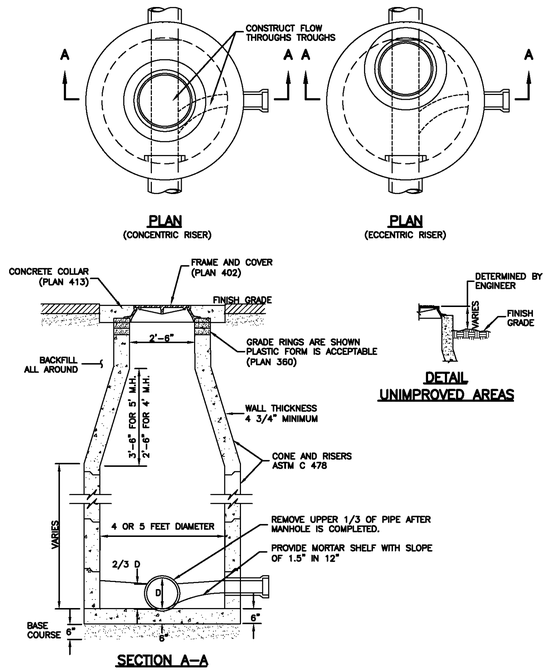
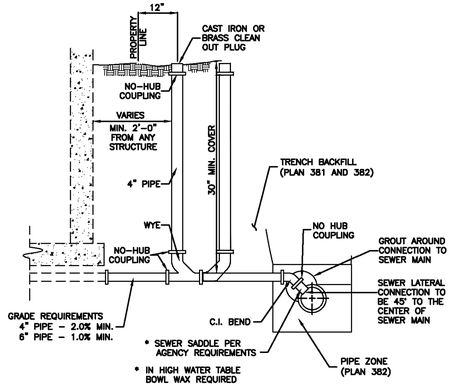


Sanitary sewer manhole

Plan **411**

April 2011

213

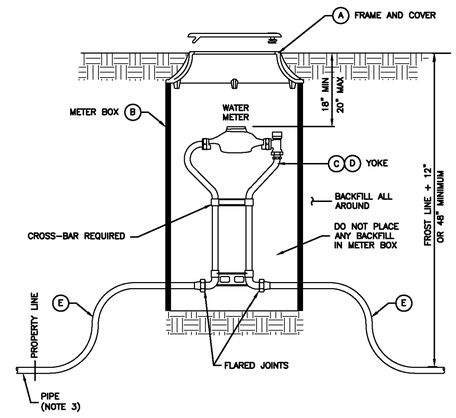


Sewer lateral connection

Plan **431** ***MODIFIED***

January 2011

219



SECTION

LEGEND			
No.	*	ITEM	DESCRIPTION
A		FRAME AND COVER	CAST IRON COVER (grass) DUCTILE IRON COVER (driveway)
B		METER BOX (18" TO 21" DIAMETER) (30" TO 36" DEEP)	CORRUGATED PE, PVC, CMP OR MATERIAL ACCEPTABLE TO AGENCY
C		3/4" METER YOKE	OPTIONAL BACKFLOW PROTECTION PER AGENCY REQUIREMENTS
D		1" METER YOKE	OPTIONAL BACKFLOW PROTECTION PER AGENCY REQUIREMENTS
E		COPPER PIPE	TYPE K (SOFT)

* FURNISHED BY UTILITY AGENCY

3/4" and 1" meter

Plan **521**

August 2001

239

Sanitary sewer manhole

1. **GENERAL**
   - A. The drawing shows typical pipe connections. Refer to construction drawings for connection locations or refer to field location of existing piping when engineering pipe connection to the manhole.
   - B. Manhole size.
     1) Diameter is 4 feet: For sewers under 12" diameter.
     2) Diameter is 5 feet: For sewers 12" and larger, or when 3 or more pipes intersect the manhole.

2. **PRODUCTS**
   - A. Base Course: Untreated base course, APWA Section 32 11 23. Do not use gravel as a base course without ENGINEER's permission.
   - B. Backfill: Common fill, APWA Section 31 05 13. Maximum particle size 2-inches.
   - C. Concrete: Class 4000, APWA Section 03 30 04.
   - D. Riser and Reducing Riser: ASTM C 478.
   - E. Reinforcement: Deformed, 60 ksi yield grade steel, ASTM A 615.
   - F. Grout: 2 parts sand to 1 part cement mortar, ASTM C 1329.
   - G. Stabilization-Separation Geotextile: Moderate or high at CONTRACTOR's choice, APWA Section 31 05 19.

3. **EXECUTION**
   - A. Foundation Stabilization: Get ENGINEER's permission to use a sewer rock or a granular backfill borrow in a geotextile wrap to stabilize an unstable foundation.
   - B. Base Course Placement: APWA Section 32 11 23. Maximum lift thickness is 8-inches before compaction. Compaction is 95 percent or greater relative to a modified proctor density, APWA Section 31 23 26.
   - C. Invert Cover. During construction, place invert covers over the top of pipe in manholes that currently convey sewerage. See Plan 412.
   - D. Pipe Connections: Grout around all pipe openings.
   - E. Pipe Seal: Install rubber-based pipe seals on all plastic pipes when connecting plastic pipes to manholes. Hold water-stop in place with stainless steel bands.
   - F. Joints: Place flexible gasket-type sealant in all riser joints. Finish with grout.
   - G. Adjustment: If the required manhole adjustment is more than 1'-0", remove the cone and grade rings and adjust the manhole elevation with the appropriate manhole section, the cone section, and the grade rings or plastic form to make frame and lid match finish grade.
   - H Finish: Provide smooth and neat finishes on interior of cones, shafts, and rings. Imperfect moldings or honeycombs will not be accepted.
   - I. Backfill: Provide backfill against the manhole shaft. Pea gravel and recycled RAP aggregate is NOT ALLOWED. Water jetting is NOT allowed. Maximum lift thickness is 8-inches before compaction. Compaction is 95 percent or greater relative to a standard proctor density, APWA Section 31 23 26.

Sewer lateral connection

1. **GENERAL**
   - A. Before installation, secure acceptance by ENGINEER for all pipe, fittings, and couplings to be used.
   - B. Before backfilling, secure inspection of installation by ENGINEER. Give at least 24 hours notice.
   - C. Verify if CONTRACTOR or agency is to install the wye.

2. **PRODUCTS**
   - A. Base Course: Untreated base course, APWA Section 32 11 23. Do not use gravel as a base course without ENGINEER's permission.
   - B. Backfill: Common fill, APWA Section 31 05 13. Maximum particle size 2-inches.
   - C. Provide agency approved wye or tee with appropriate donut.
   - D. Stainless steel straps required.

3. **EXECUTION**
   - A. Tape wrap pipe as required by soil conditions.
   - B. Remove core plug from sewer main. Do not break into sewer main to make connection.
   - C. Base Course and Backfill Placement: Maximum lift thickness is 8-inches before compaction. Compaction is 95 percent or greater relative to a standard proctor density, APWA Section 31 23 26.

3/4" and 1" meter

1. **GENERAL**
   - A. In street surfaces or other vehicular traffic areas (like driveway approaches), Install the same type of meter box as required for 1 1/2" and 2" service meters. See Plan 522.
   - B. Before backfilling, secure inspection of installation by ENGINEER.

2. **PRODUCTS**
   - A. Base Course: Untreated base course, APWA Section 32 11 23. Do not use gravel as a base course without ENGINEER's permission.
   - B. Backfill: Common fill, APWA Section 31 05 13. Maximum particle size 2-inches.
   - C. Castings: Grey iron class 35 minimum per ASTM A 48, coated with asphalt based paint or better.

3. **EXECUTION**
   - A. Meter Placement:
     1) All meters are to be installed in the park strip or within 7 feet of the property line (street side).
     2) Do not install meters under driveway approaches, sidewalks, or curb and gutter.
   - B. Meter Box: Set box so grade of the frame and cover matches the grade of the surrounding surface.
   - C. Pipe Outside of Right-of-Way: Coordinate with utility agency or adjacent property owner for type of pipe to be used outside of right-of-way.
   - D. Inspection: Before backfilling around meter box, secure inspection of installation by ENGINEER.
   - E. Base Course and Backfill Placement: Compaction is 95 percent or greater relative to a modified proctor density, APWA Section 31 23 26. Maximum lift thickness before compaction is 8-inches.

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RYAN W. CATHEY
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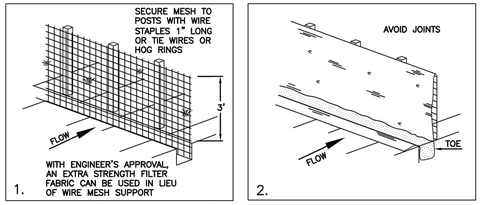
c5.02
MISC. DETAILS

N/A
scale

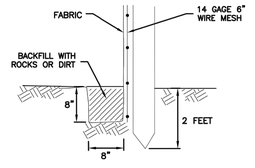
SUBMITTAL SET
phase / rev

2017.05.30
date

NARRATIVE: THIS PLAN MAY BE USED FOR THE CONSTRUCTION OF A STORM WATER BEST MANAGEMENT PRACTICE (BMP). IT IS NOT INCLUSIVE OF ALL PRACTICES AVAILABLE AND IS ONLY SPECIFIC TO THE CONSTRUCTION OF THIS TYPE. MAINTENANCE OF THIS TYPE OF INSTALLATION IS IMPORTANT AND SHOULD BE CONTINUOUSLY MONITORED BY THE CONTRACTOR AND ENGINEER. DETAILS SHOWN HERE HIGHLIGHT IMPORTANT PARTS OF CONSTRUCTION, AND SHOULD BE MODIFIED AS NEEDED.



INSTALLATION SEQUENCE



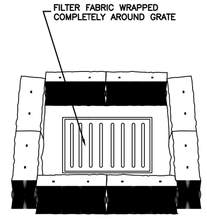
TOE DETAIL

Silt fence

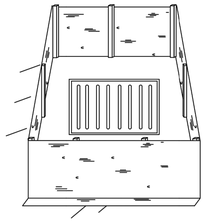
Plan **122**

February 2006 7

NARRATIVE: THIS PLAN MAY BE USED FOR THE CONSTRUCTION OF A STORM WATER BEST MANAGEMENT PRACTICE (BMP). IT IS NOT INCLUSIVE OF ALL PRACTICES AVAILABLE AND IS ONLY SPECIFIC TO THE CONSTRUCTION OF THIS TYPE. MAINTENANCE OF THIS TYPE OF INSTALLATION IS IMPORTANT AND SHOULD BE CONTINUOUSLY MONITORED BY THE CONTRACTOR AND ENGINEER. DETAILS SHOWN HERE HIGHLIGHT IMPORTANT PARTS OF CONSTRUCTION, AND SHOULD BE MODIFIED AS NEEDED.



STRAW BALE BARRIER
(PLAN No. 121)



SILT FENCE
(PLAN No. 122)

Inlet protection - fence or straw bale

Plan **124** Sheet 3 of 3

February 2006 15

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16–101

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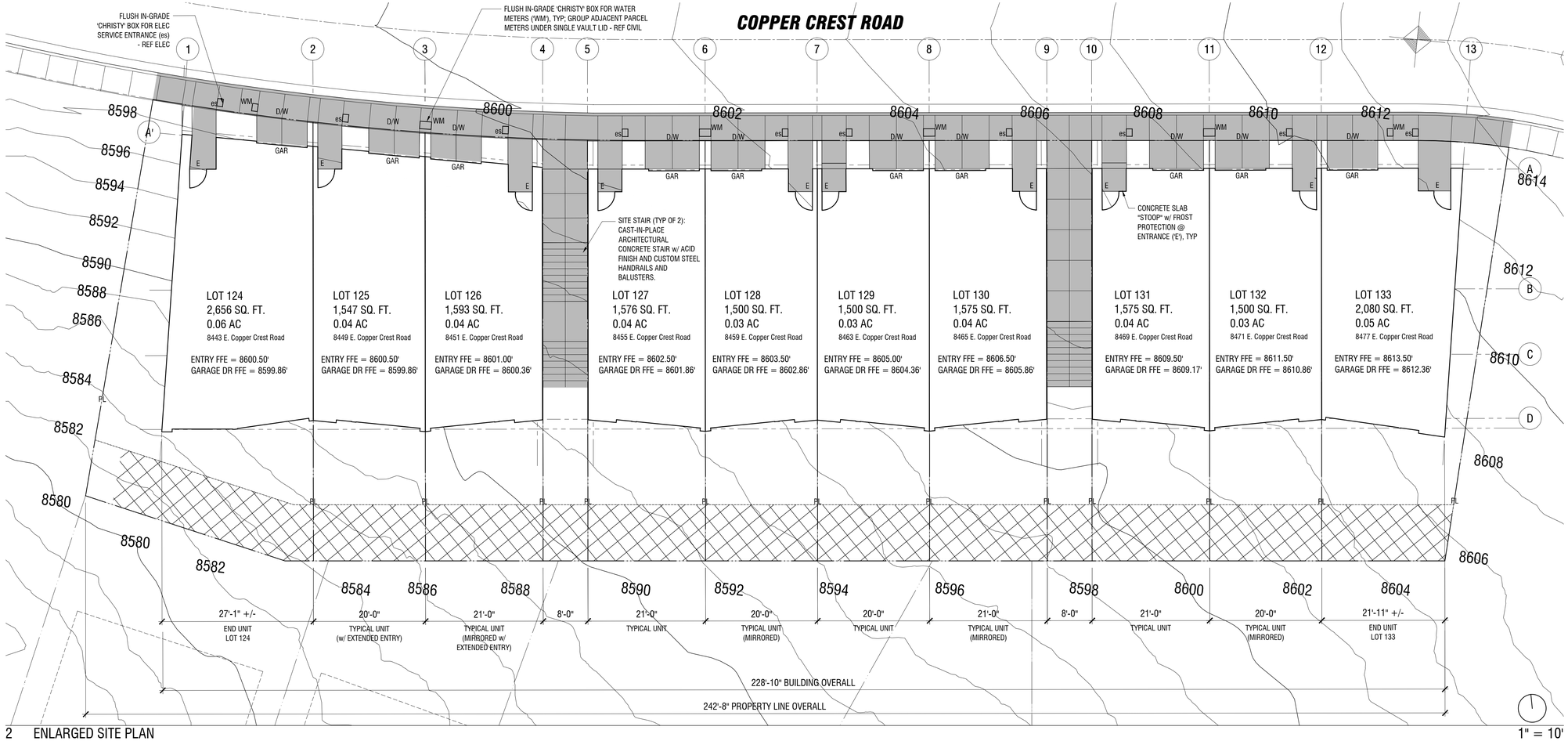
c5.03
EROSION CONTROL DETAILS

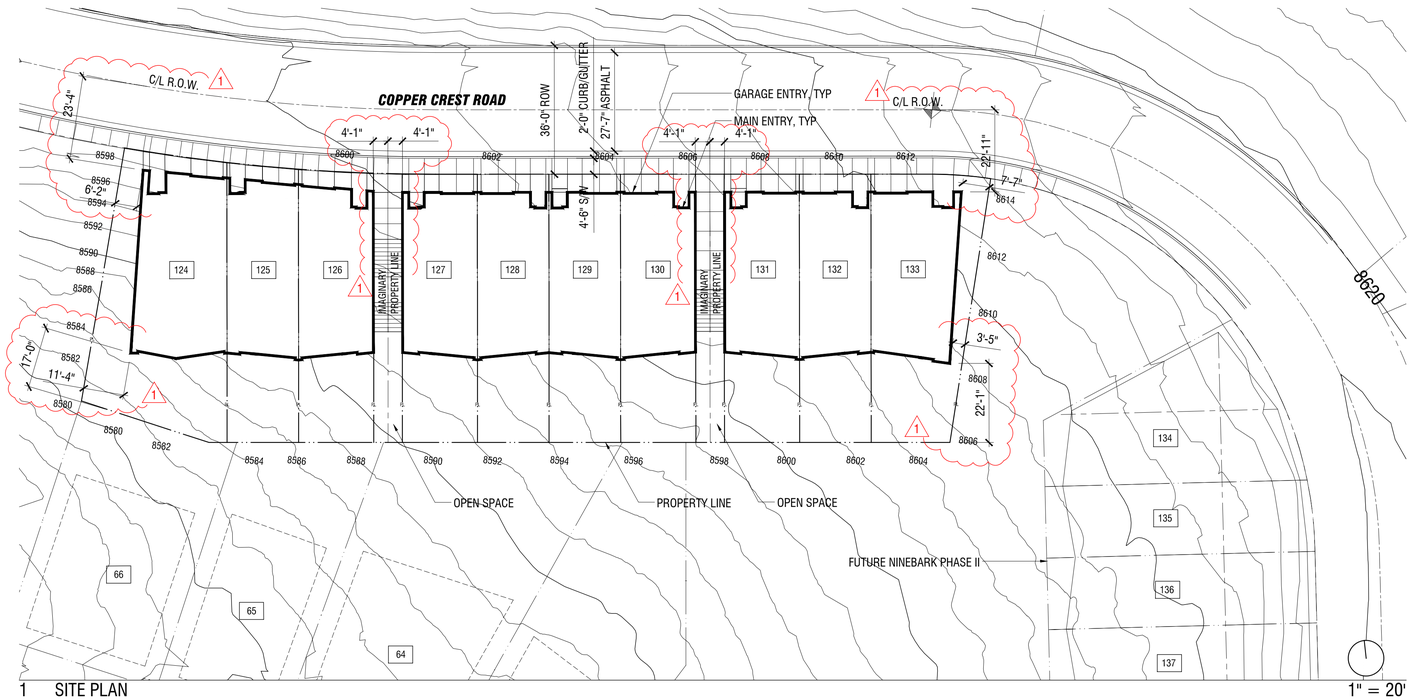
N/A
scale

SUBMITTAL SET
phase / rev

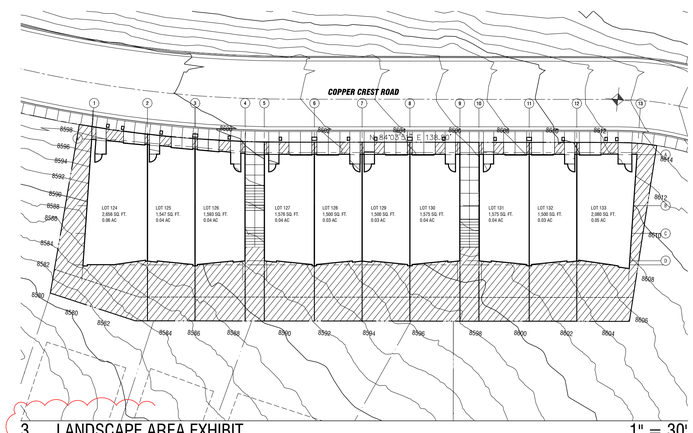
2017.05.30
date



2 ENLARGED SITE PLAN 1" = 10'



1 SITE PLAN 1" = 20'



3 LANDSCAPE AREA EXHIBIT 1" = 30'

LANDSCAPE AREA (minimum of 80% landscape area provided as living plant material)

LANDSCAPE AREA CALCULATIONS

TOTAL SITE AREA:	18,303 SF
TOTAL FOOTPRINT:	9,909 SF
AGGREGATE LANDSCAPE AREA:	6,995 SF
PERCENT LANDSCAPE:	**38.2%**

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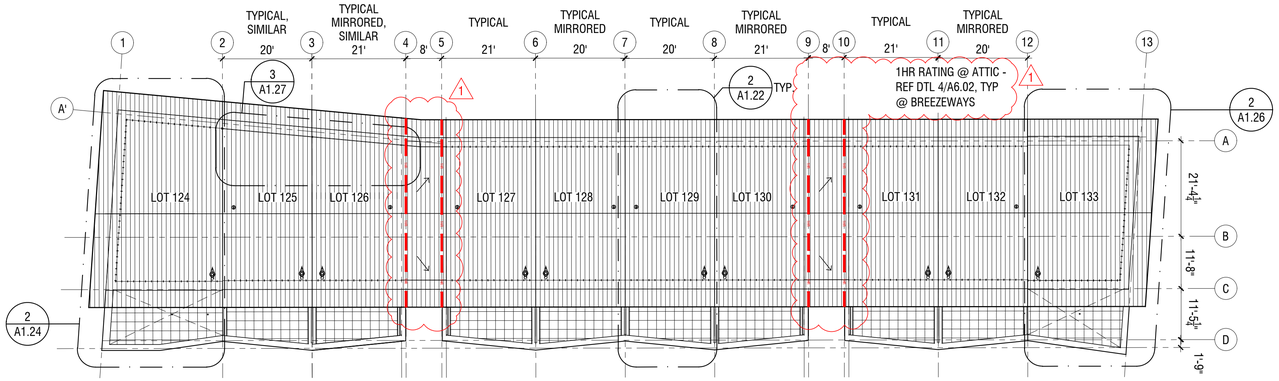
STATE OF UTAH
DANIEL HOFFMAN
No. 7828867-0301
June 26, 2017
LICENSED ARCHITECT

A1.00
SITE PLAN

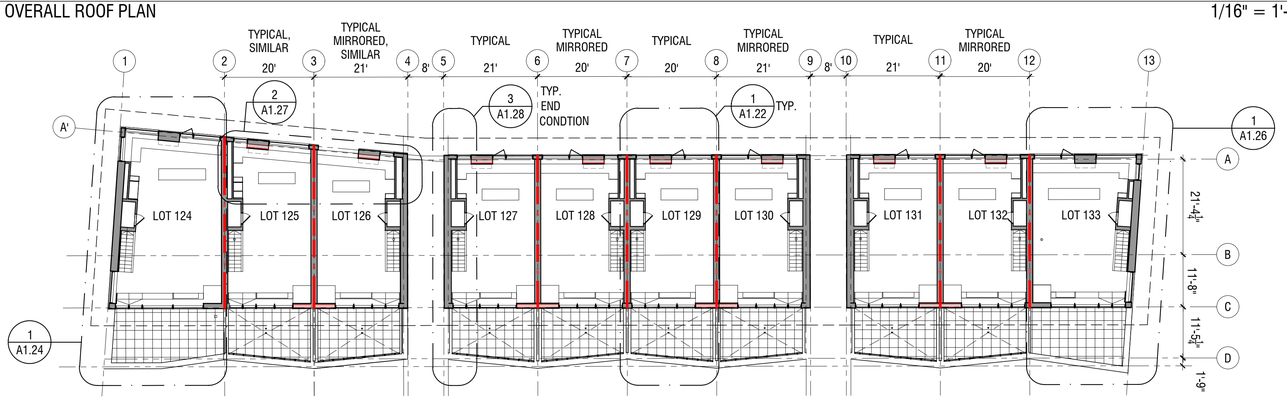
as noted
scale

1
PERMIT SET
phase / rev

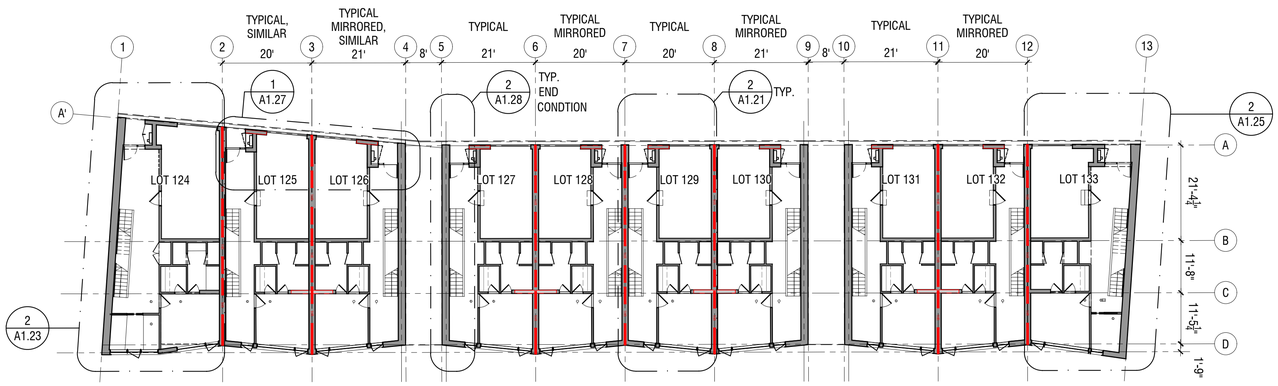
2017.06.01
date



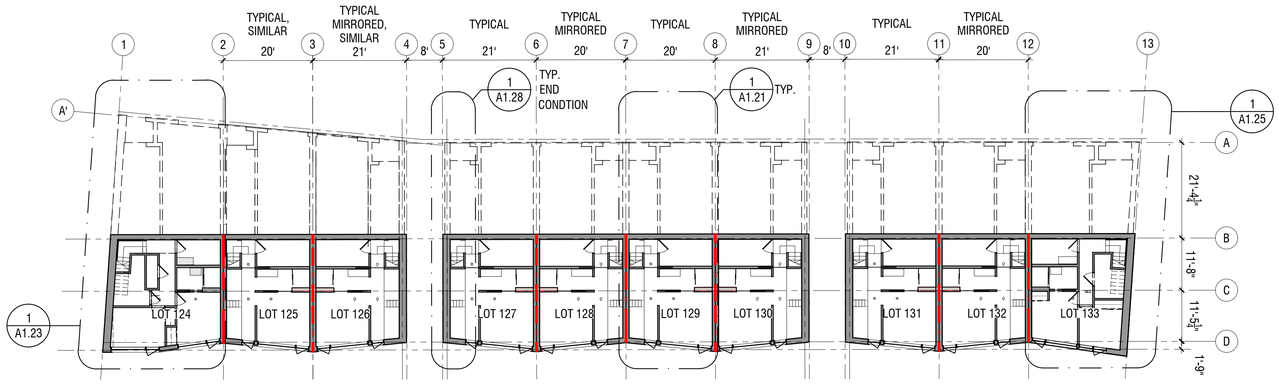
1 OVERALL ROOF PLAN 1/16" = 1'-0"



2 OVERALL 2ND LEVEL PLAN 1/16" = 1'-0"



3 OVERALL ENTRY LEVEL PLAN 1/16" = 1'-0"



4 OVERALL LOWER LEVEL PLAN 1/16" = 1'-0"

LEGEND

ONE-HOUR RATED PARTY WALL

BUILDING AREA SUMMARY

GROSS AREA	UPPER	7,537 SF
	ENTRY	9,736 SF
	LOWER	5,402 SF
	GROSS AREA TOTAL	22,675 SF

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STATE OF UTAH
DANIEL HOFFMAN
No. 7829867-0301
June 30, 2017
LICENSED ARCHITECT

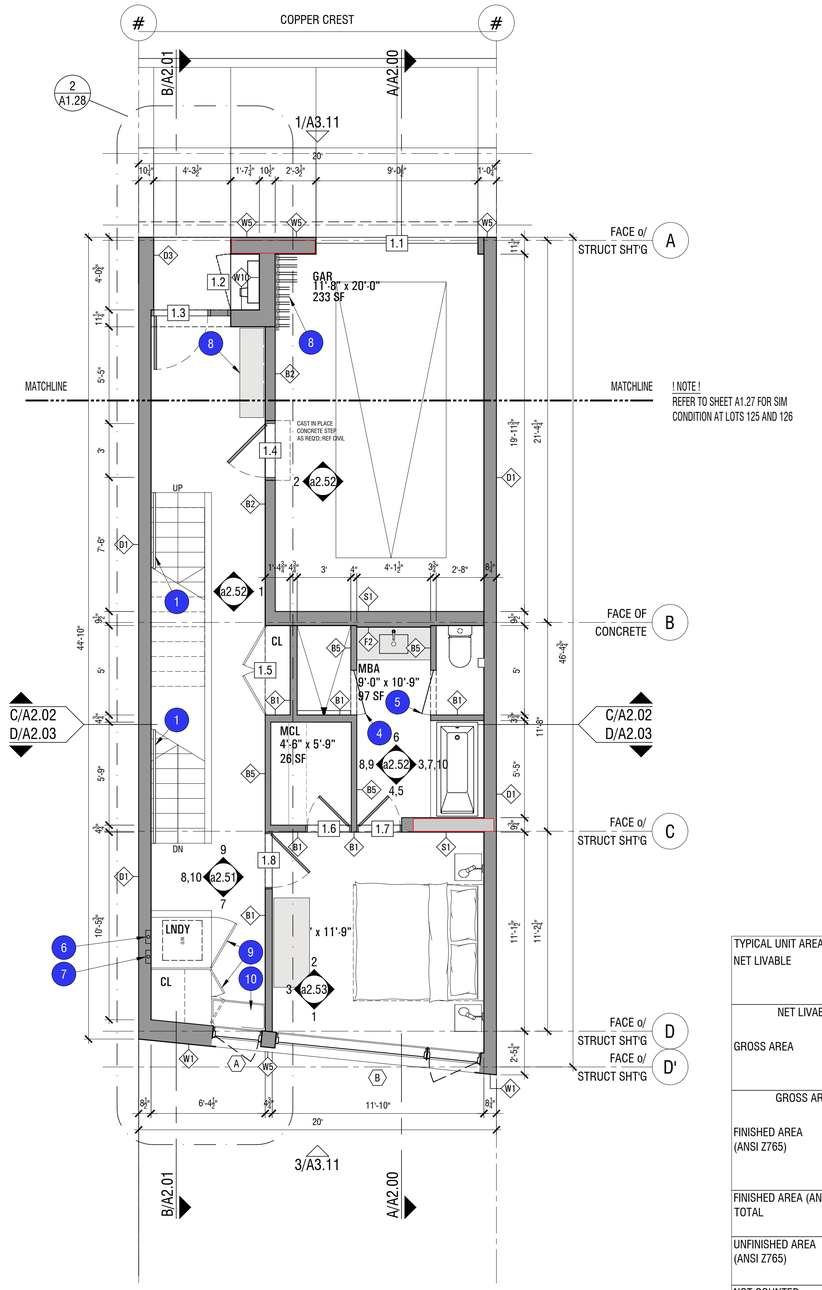
A1.20
OVERALL BUILDING PLANS

as noted
scale

1

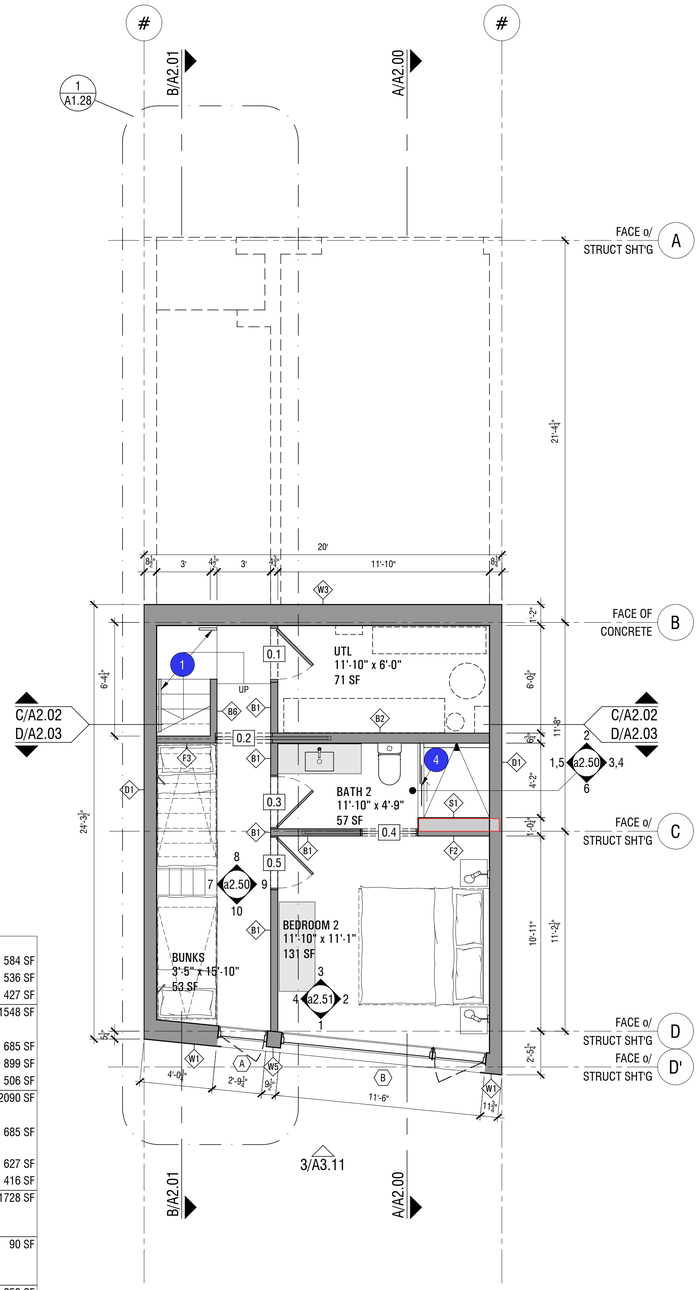
PERMIT SET
phase / rev

2017.06.30
date



2
ENTRY LEVEL FLOOR PLAN
1/4" = 1'-0"

TYPICAL UNIT AREA SUMMARY		
NET LIVABLE	UPPER	584 SF
	ENTRY	536 SF
	LOWER	427 SF
NET LIVABLE TOTAL		1548 SF
GROSS AREA	UPPER	685 SF
	ENTRY	899 SF
	LOWER	506 SF
GROSS AREA TOTAL		2090 SF
FINISHED AREA (ANSI Z765)	UPPER	685 SF
	ENTRY	627 SF
	LOWER	416 SF
FINISHED AREA (ANSI Z765) TOTAL		1728 SF
UNFINISHED AREA (ANSI Z765)	UTILITY ROOM	90 SF
NOT COUNTED AREA (ANSI Z765)	GARAGE AREA	259 SF



1
LOWER LEVEL FLOOR PLAN
1/4" = 1'-0"

GENERAL PLAN NOTES

1. Refer to general information sheet for general notes, abbreviations, symbols, legends and alternates.
2. General dimensioning requirements:
   a. All dimensions from existing structures are from face of masonry/concrete wall, or face of finish, typical unless noted otherwise (u.n.o.).
   b. All dimensions relative to existing conditions shall be verified in field, typical.
   c. All dimensions to new exterior work are to face of structural sheathing / face of concrete, typical u.n.o.
   d. All dimensions to new interior walls are to face of finish, typical u.n.o. All dimensions to columns are to center of column, u.n.o.
   e. All dimensions to electrical and plumbing fixtures, appliances, and equipment are to centerline of fixture, typical u.n.o.
   f. Dimensions to window walls are to finished opening / outside face of window jamb, not rough opening, u.n.o.; refer to window wall schedule for additional dimensional requirements.
   g. Dimensions to doors are to door slab, not rough opening, u.n.o.; refer to door schedule for frame size and additional dimensional requirements. Where jamb return is shown, but no dimension is provided, door is to be located 4" from face of adjacent wall to edge of frame.
   h. All datum elevations are from FFE, not subfloor, u.n.o.
   i. All dimensions to floor outlets, or boxes, are subject to field coordination. All locations provided are diagrammatic until field-located with Architect and Owner.
3. All partitions are full height to underside of structural roof or floor sheathing. Walls which also coincide with structural walls shall be as per the structural framing requirements.
   a. Walls above doors shall match wall type for adjacent wall, typical u.n.o.
   b. Walls above and below windows shall be as noted on drawings. Refer to plans for wall tags, and to wall sections and details.
4. Provide additional layers of wood sheathing and/or gypsum wall board (rated where required) as necessary to maintain finish dimensions, and to ensure wall surfaces are flush where structural framing and sheathing are not continuous.
5. Refer to door and window wall schedule for general door and glazing requirements.
6. Refer to finish schedule / legends.
7. Confirm w/ Owner for A/V, telecommunications, fire alarm, and security documents (by others) for all related equipment including, but not limited to, TVs, projectors, projection screens, speakers, a/v, data, fire alarm, and security specific devices, and cabling. All conduit, floor boxes and junction boxes are part of the work as shown and shall be coordinated with the Architect, Owner, and Owner's specialty contractor(s) prior to commencing work. All systems by Owner shall be coordinated by the General Contractor and submitted for review immediately following the notice to proceed so as not to delay the progress of work.

WALL LEGEND

WOOD FRAME WALL

SHEAR WALL

WALL TYPE
where no tag is provided, bid wall types B2 typ
interior, and W1 typ exterior and verify with Architect

- Nominal 2x interior (non-loadbearing) wood framing @ 24" o.c. max., or as noted. At walls with tile, studs to be @ 16" o.c. max. Plate size to match stud size except where noted. All load-bearing walls to be framed as per structural drawings. Wood in contact with concrete to be pressure-treated, provide sill sealer below all exterior wall sill plates.
- Fill all stud cavities with insulation - thermal insulation @ exterior walls; acoustic insulation @ interior walls. Refer to wall types and specifications for types and configurations.

KEYNOTES

#	DESCRIPTION	REF. DTL/SHT
1	STAIR HANDRAIL / GUARDRAIL	3,4/A2.10
2	CANTILEVER GLASS GUARDRAIL	2/A5.07
3	KITCHEN ISLAND w/ CABINETS BELOW	
4	GLASS SHOWER ENCLOSURE & DR	
5	GLASS WATER CLOSET ENCLOSURE & DR	
6	RECESSED DRYERBOX	REF. MECH.
7	RECESSED WASHER BOX	REF. PLBG.
8	STORAGE AND SPECIALTY EQUIP (SKI RACK, BIKE RACK, BOOT DRYERS)	REF. SPECS
9	FULL HEIGHT MILLWORK/CABINETRY DOORS AND HARDWARE;	REF. MLWK. SPECS REF. INT ELEV.
10	MILLWORK BENCH WITH OPERABLE LID, CUSHION BY OWNER	REF. MLWK. SPECS
11	SIMILAR BUNK CONDITION	A5.12
12	MILLWORK	REF. MLWK. SPECS

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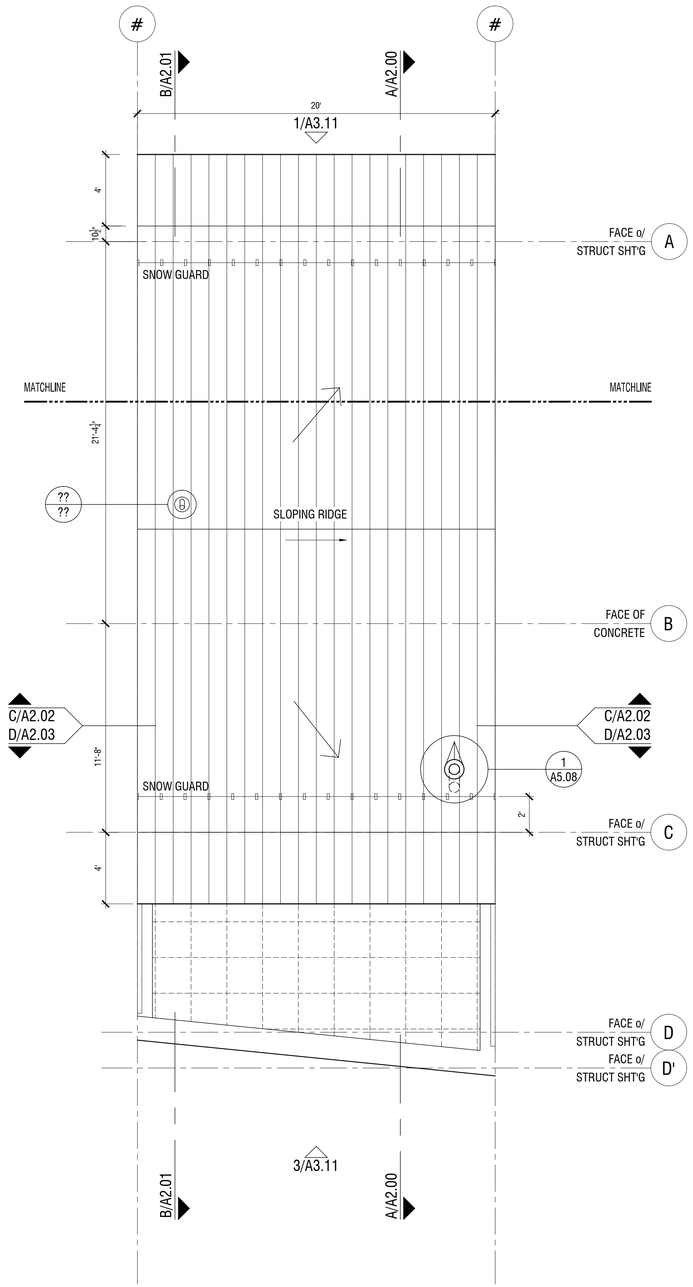
STATE OF UTAH
DANIEL HOFFMAN
No. 7829867-0301
June 1, 2017
LICENSED ARCHITECT

A1.21
TYPICAL UNIT
ENTRY AND LOWER
LEVEL FLOOR PLANS

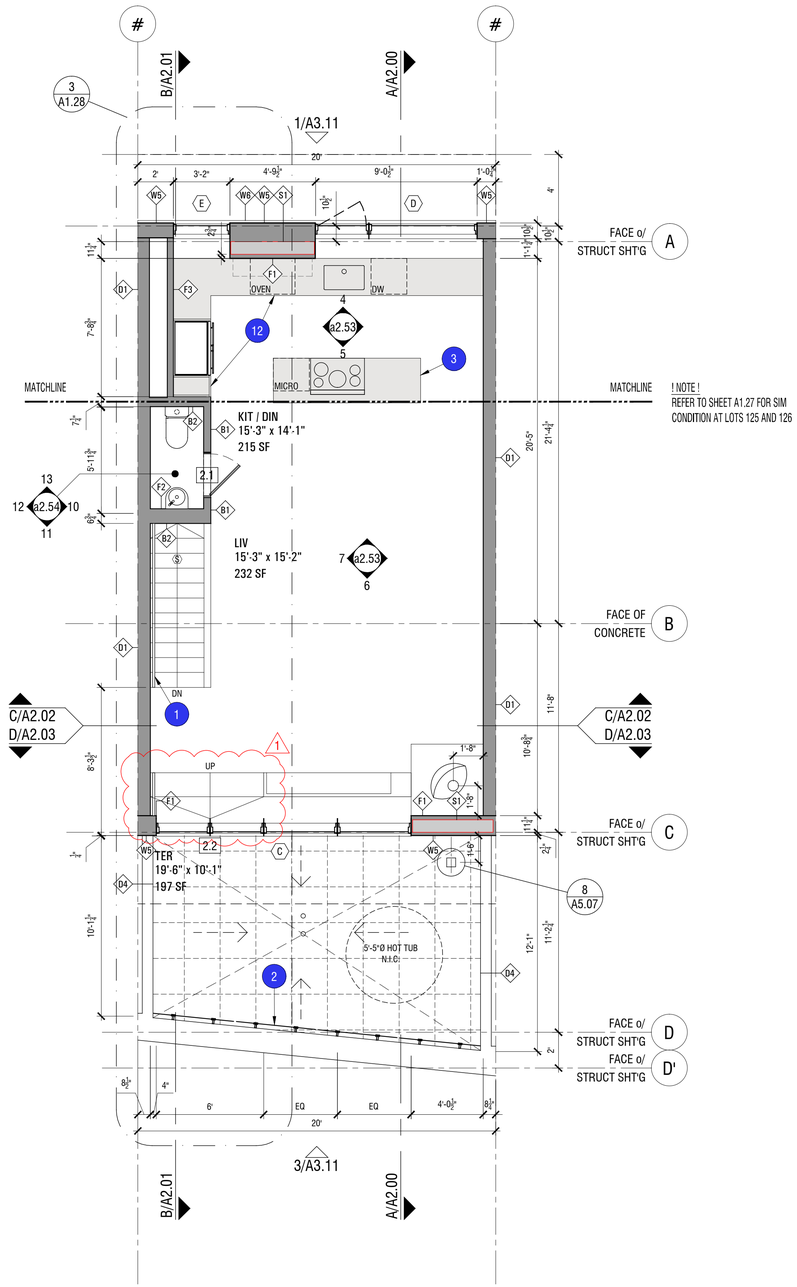
1/4" = 1'-0"
scale

PERMIT SET
phase / rev

2017.06.01
date



2
ROOF FLOOR PLAN
1/4" = 1'-0"



1
UPPER LEVEL FLOOR PLAN
1/4" = 1'-0"

GENERAL PLAN NOTES

1. Refer to general information sheet for general notes, abbreviations, symbols, legends and alternates.
2. General dimensioning requirements:
   a. All dimensions from existing structures are from face of masonry/concrete wall, or face of finish, typical unless noted otherwise (u.n.o.).
   b. All dimensions relative to existing conditions shall be verified in field, typical.
   c. All dimensions to new exterior work are to face of structural sheathing / face of concrete, typical u.n.o.
   d. All dimensions to new interior walls are to face of finish, typical u.n.o. All dimensions to columns are to center of column, u.n.o.
   e. All dimensions to electrical and plumbing fixtures, appliances, and equipment are to centerline of fixture, typical u.n.o.
   f. Dimensions to window walls are to finished opening / outside face of window jamb, not rough opening, u.n.o.; refer to window wall schedule for additional dimensional requirements.
   g. Dimensions to doors are to door slab, not rough opening, u.n.o.; refer to door schedule for frame size and additional dimensional requirements. Where jamb return is shown, but no dimension is provided, door is to be located 4" from face of adjacent wall to edge of frame.
   h. All datum elevations are from FFE, not subfloor, u.n.o.
   i. All dimensions to floor outlets, or boxes, are subject to field coordination. All locations provided are diagrammatic until field-located with Architect and Owner.
3. All partitions are full height to underside of structural roof or floor sheathing. Walls which also coincide with structural walls shall be as per the structural framing requirements.
   a. Walls above doors shall match wall type for adjacent wall, typical u.n.o.
   b. Walls above and below windows shall be as noted on drawings. Refer to plans for wall tags, and to wall sections and details.
4. Provide additional layers of wood sheathing and/or gypsum wall board (rated where required) as necessary to maintain finish dimensions, and to ensure wall surfaces are flush where structural framing and sheathing are not continuous.
5. Refer to door and window wall schedule for general door and glazing requirements.
6. Refer to finish schedule / legends.
7. Confirm w/ Owner for A/V, telecommunications, fire alarm, and security documents (by others) for all related equipment including, but not limited to, TVs, projectors, projection screens, speakers, a/v, data, fire alarm, and security specific devices, and cabling. All conduit, floor boxes and junction boxes are part of the work as shown and shall be coordinated with the Architect, Owner, and Owner's specialty contractor(s) prior to commencing work. All systems by Owner shall be coordinated by the General Contractor and submitted for review immediately following the notice to proceed so as not to delay the progress of work.

WALL LEGEND

WOOD FRAME WALL

SHEAR WALL

WALL TYPE
where no tag is provided, bid wall types B2 typ interior, and W1 typ exterior and verify with Architect

- Nominal 2x interior (non-loadbearing) wood framing @ 24" o.c. max., or as noted. At walls with tile, studs to be @ 16" o.c. max. Plate size to match stud size except where noted. All load-bearing walls to be framed as per structural drawings. Wood in contact with concrete to be pressure-treated, provide sill sealer below all exterior wall sill plates.
- Fill all stud cavities with insulation - thermal insulation @ exterior walls; acoustic insulation @ interior walls. Refer to wall types and specifications for types and configurations.

KEYNOTES

#	DESCRIPTION	REF. DTL/SHT
1	STAIR HANDRAIL / GUARDRAIL	3,4/A2.10
2	CANTILEVER GLASS GUARDRAIL	2/A5.07
3	KITCHEN ISLAND w/ CABINETS BELOW	
4	GLASS SHOWER ENCLOSURE & DR	
5	GLASS WATER CLOSET ENCLOSURE & DR	
6	RECESSED DRYERBOX	REF. MECH.
7	RECESSED WASHER BOX	REF. PLBG.
8	STORAGE AND SPECIALTY EQUIP (SKI RACK, BIKE RACK, BOOT DRYERS)	REF. SPECS
9	FULL HEIGHT MILLWORK/CABINETRY DOORS AND HARDWARE;	REF. MLWK. SPECS REF. INT ELEV.
10	MILLWORK BENCH WITH OPERABLE LID, CUSHION BY OWNER	REF. MLWK. SPECS
11	SIMILAR BUNK CONDITION	A5.12
12	MILLWORK	REF. MLWK. SPECS

GENERAL ROOF PLAN NOTES

1. Refer to general information sheet for general notes, abbreviations, symbols, legends and alternates.
2. All roof mounted equipment to be placed with special attention to visibility and sight lines, and are to be confirmed in the field with the Architect prior to starting work. Field coordinate height of all mechanical screens to ensure all roof-mounted equipment is fully screened.
3. Vent pipes and all other roof penetrations shall be planned carefully prior to rough-in. Consolidate, size, and locate as inconspicuously as possible, with heights as per code-minimum requirements - provide fabricated metal shroud to screen penetrations from view; match roofing material.
4. At sloped metal roofs, wrap and/or clad non-metal items to match material and finish of roofing where metal shroud cannot be provided, such as chimneys.

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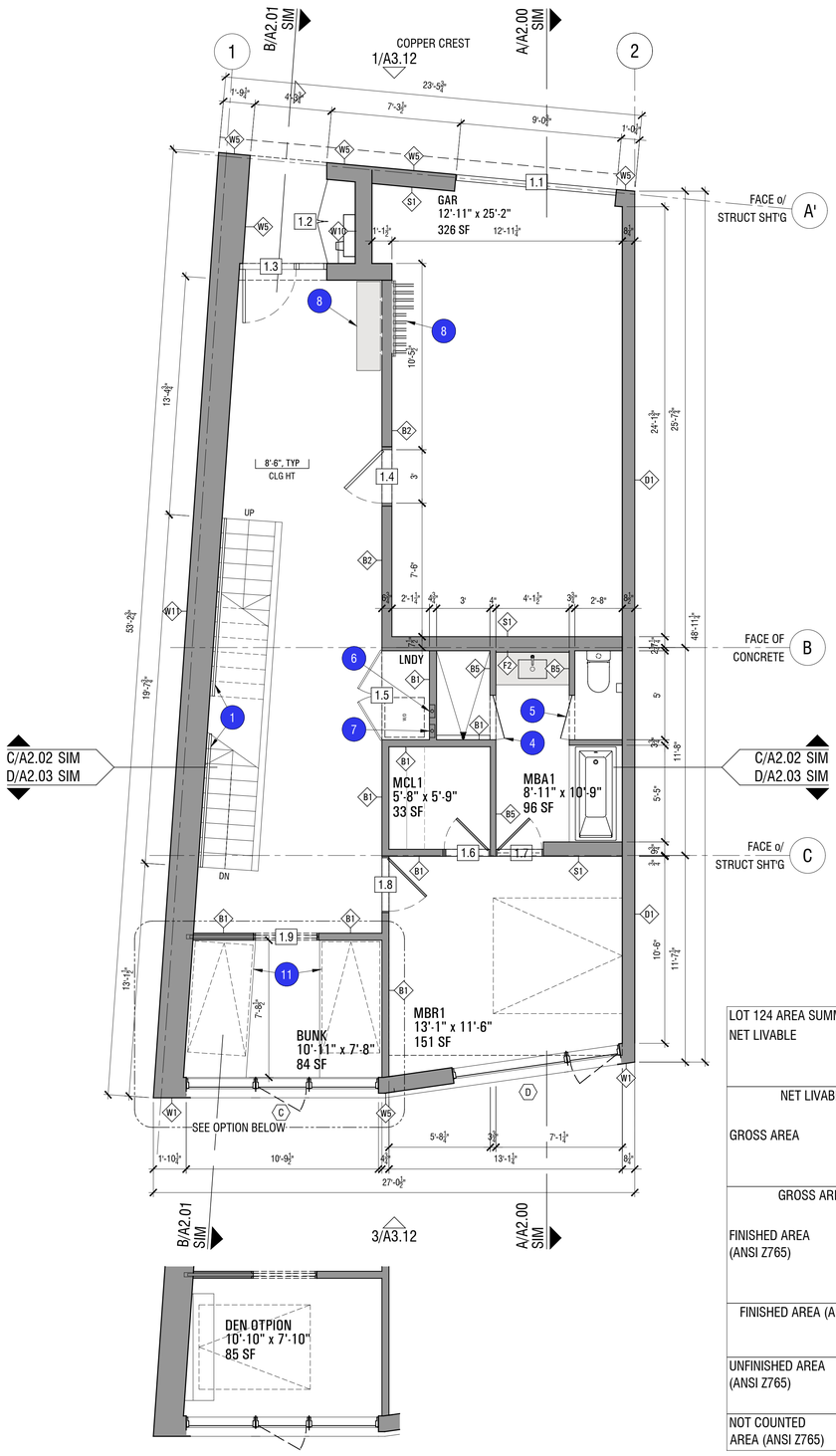
STATE OF UTAH
DANIEL HOFFMAN
No. 7829887-0301
June 26, 2017
LICENSED ARCHITECT

A1.22
TYPICAL UNIT UPPER LEVEL AND ROOF PLANS

1/4" = 1'-0"
scale

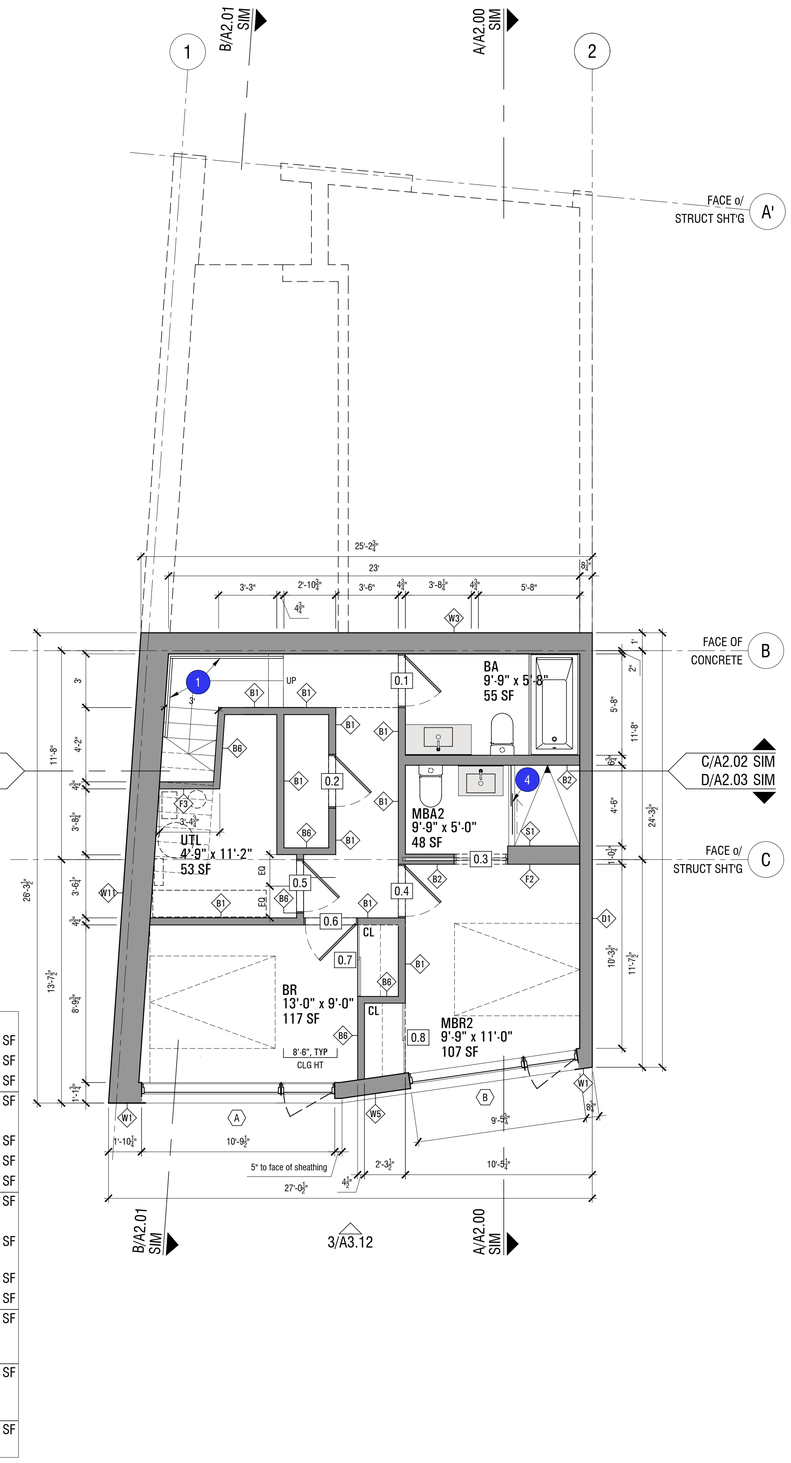
1
PERMIT SET
phase / rev

2017.06.01
date



2 ENTRY LEVEL FLOOR PLAN
1/4" = 1'-0"

LOT 124 AREA SUMMARY		
NET LIVABLE	UPPER	829 SF
	ENTRY	743 SF
	LOWER	557 SF
NET LIVABLE TOTAL		2129 SF
GROSS AREA	UPPER	968 SF
	ENTRY	1273 SF
	LOWER	672 SF
GROSS AREA TOTAL		2913 SF
FINISHED AREA (ANSI Z765)	UPPER	968 SF
	ENTRY	892 SF
	LOWER	586 SF
FINISHED AREA (ANSI Z765) TOTAL		2445 SF
UNFINISHED AREA (ANSI Z765)	UTILITY ROOM	86 SF
NOT COUNTED AREA (ANSI Z765)	GARAGE AREA	356 SF



1 LOWER LEVEL FLOOR PLAN
1/4" = 1'-0"

GENERAL PLAN NOTES

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2. General dimensioning requirements:
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   h. All datum elevations are from FFE, not subfloor, u.n.o.
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4. Provide additional layers of wood sheathing and/or gypsum wall board (rated where required) as necessary to maintain finish dimensions, and to ensure wall surfaces are flush where structural framing and sheathing are not continuous.
5. Refer to door and window wall schedule for general door and glazing requirements.
6. Refer to finish schedule / legends.
7. Confirm w/ Owner for A/V, telecommunications, fire alarm, and security documents (by others) for all related equipment including, but not limited to, TVs, projectors, projection screens, speakers, a/v, data, fire alarm, and security specific devices, and cabling. All conduit, floor boxes and junction boxes are part of the work as shown and shall be coordinated with the Architect, Owner, and Owner's specialty contractor(s) prior to commencing work. All systems by Owner shall be coordinated by the General Contractor and submitted for review immediately following the notice to proceed so as not to delay the progress of work.

WALL LEGEND

WOOD FRAME WALL

SHEAR WALL

WALL TYPE
where no tag is provided, bid wall types B2 typ interior, and W1 typ exterior and verify with Architect

- Nominal 2x interior (non-loadbearing) wood framing @ 24" o.c. max., or as noted. At walls with tile, studs to be @ 16" o.c. max. Plate size to match stud size except where noted. All load-bearing walls to be framed as per structural drawings. Wood in contact with concrete to be pressure-treated, provide sill sealer below all exterior wall sill plates.
- Fill all stud cavities with insulation - thermal insulation @ exterior walls; acoustic insulation @ interior walls. Refer to wall types and specifications for types and configurations.

KEYNOTES

#	DESCRIPTION	REF. DTL/SHT
1	STAIR HANDRAIL / GUARDRAIL	3,4/A2.10
2	CANTILEVER GLASS GUARDRAIL	2/A5.07
3	KITCHEN ISLAND w/ CABINETS BELOW	
4	GLASS SHOWER ENCLOSURE & DR	
5	GLASS WATER CLOSET ENCLOSURE & DR	
6	RECESSED DRYERBOX	REF. MECH.
7	RECESSED WASHER BOX	REF. PLBG.
8	STORAGE AND SPECIALTY EQUIP (SKI RACK, BIKE RACK, BOOT DRYERS)	REF. SPECS
9	FULL HEIGHT MILLWORK/CABINETRY DOORS AND HARDWARE;	REF. MLWK. SPECS REF. INT ELEV.
10	MILLWORK BENCH WITH OPERABLE LID, CUSHION BY OWNER	REF. MLWK. SPECS
11	SIMILAR BUNK CONDITION	A5.12
12	MILLWORK	REF. MLWK. SPECS

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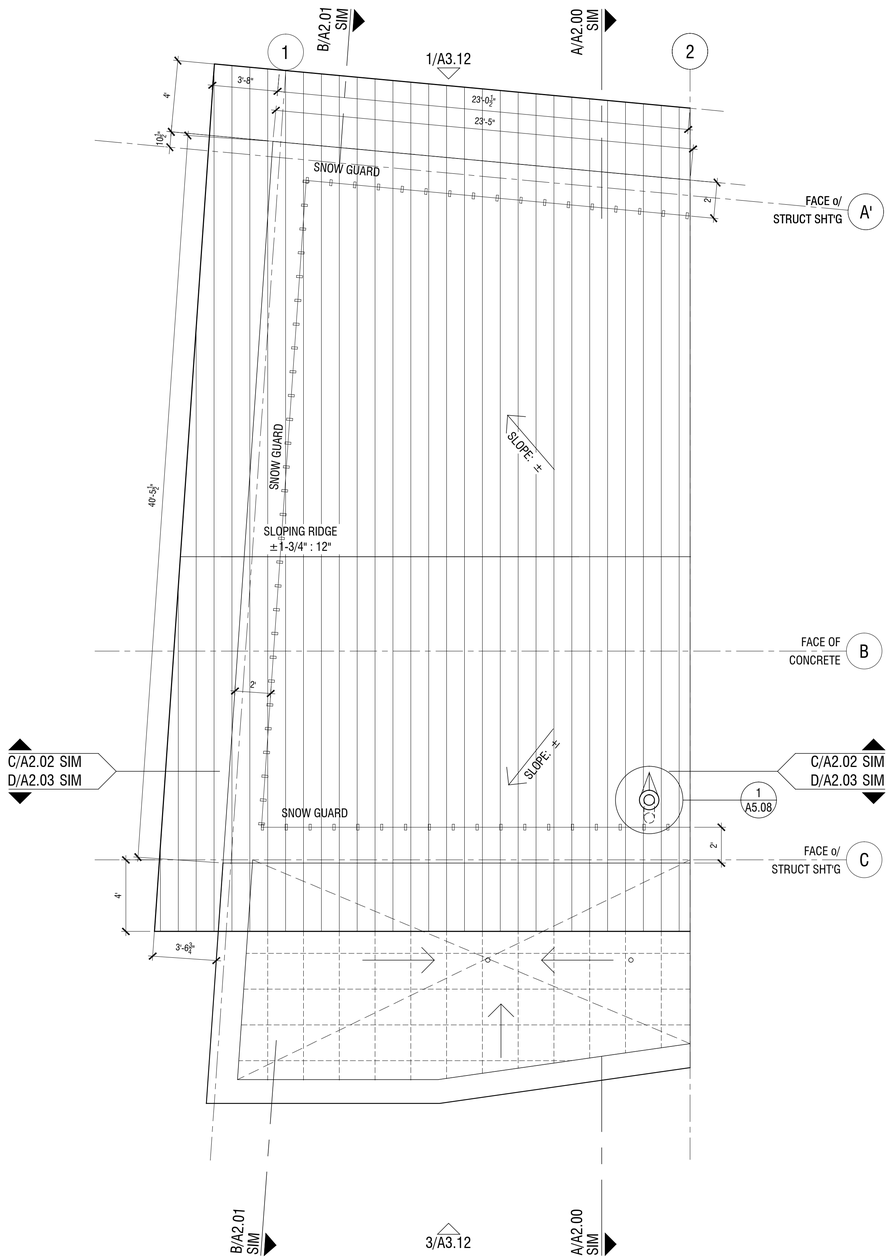
STATE OF UTAH
DANIEL HOFFMAN
No. 7829867-0301
LICENSED ARCHITECT
June 1, 2017

A1.23
LOT 124 ENTRY AND LOWER LEVEL FLOOR PLANS

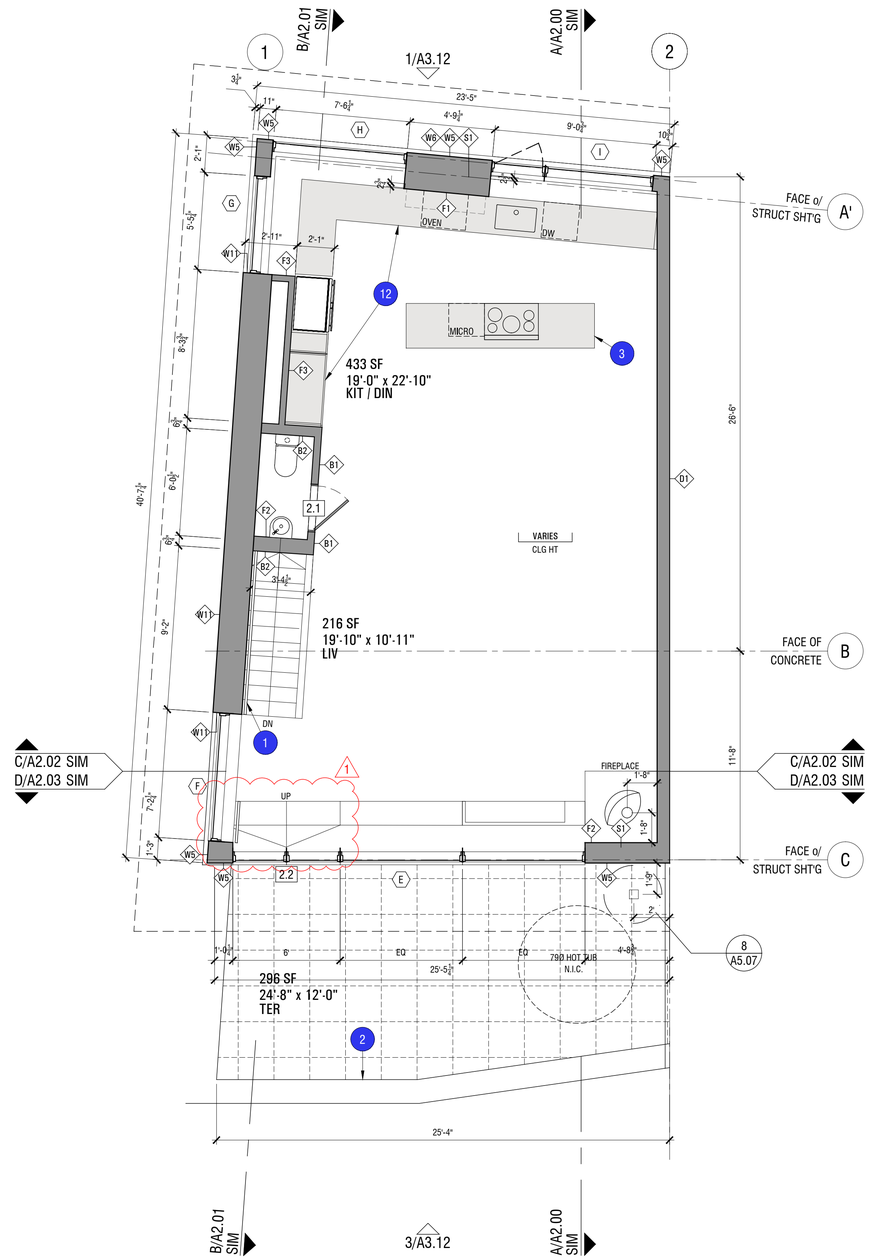
1/4" = 1'-0"
scale

PERMIT SET
phase / rev

2017.06.01
date



2
ROOF FLOOR PLAN
1/4" = 1'-0"



1
UPPER LEVEL FLOOR PLAN
1/4" = 1'-0"

GENERAL PLAN NOTES

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   e. All dimensions to electrical and plumbing fixtures, appliances, and equipment are to centerline of fixture, typical u.n.o.
   f. Dimensions to window walls are to finished opening / outside face of window jamb, not rough opening, u.n.o.; refer to window wall schedule for additional dimensional requirements.
   g. Dimensions to doors are to door slab, not rough opening, u.n.o.; refer to door schedule for frame size and additional dimensional requirements. Where jamb return is shown, but no dimension is provided, door is to be located 4" from face of adjacent wall to edge of frame.
   h. All datum elevations are from FFE, not subfloor, u.n.o.
   i. All dimensions to floor outlets, or boxes, are subject to field coordination. All locations provided are diagrammatic until field-located with Architect and Owner.
3. All partitions are full height to underside of structural roof or floor sheathing. Walls which also coincide with structural walls shall be as per the structural framing requirements.
   a. Walls above doors shall match wall type for adjacent wall, typical u.n.o.
   b. Walls above and below windows shall be as noted on drawings. Refer to plans for wall tags, and to wall sections and details.
4. Provide additional layers of wood sheathing and/or gypsum wall board (rated where required) as necessary to maintain finish dimensions, and to ensure wall surfaces are flush where structural framing and sheathing are not continuous.
5. Refer to door and window wall schedule for general door and glazing requirements.
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WALL LEGEND

WOOD FRAME WALL

SHEAR WALL

WALL TYPE
where no tag is provided, bid wall types B2 typ interior, and W1 typ exterior and verify with Architect

- Nominal 2x interior (non-loadbearing) wood framing @ 24" o.c. max., or as noted. At walls with tile, studs to be @ 16" o.c. max. Plate size to match stud size except where noted. All load-bearing walls to be framed as per structural drawings. Wood in contact with concrete to be pressure-treated, provide sill sealer below all exterior wall sill plates.
- Fill all stud cavities with insulation - thermal insulation @ exterior walls; acoustic insulation @ interior walls. Refer to wall types and specifications for types and configurations.

KEYNOTES

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2	CANTILEVER GLASS GUARDRAIL	2/A5.07
3	KITCHEN ISLAND w/ CABINETS BELOW	
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6	RECESSED DRYERBOX	REF. MECH.
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9	FULL HEIGHT MILLWORK/CABINETRY DOORS AND HARDWARE;	REF. MLWK. SPECS REF. INT ELEV.
10	MILLWORK BENCH WITH OPERABLE LID, CUSHION BY OWNER	REF. MLWK. SPECS
11	SIMILAR BUNK CONDITION	A5.12
12	MILLWORK	REF. MLWK. SPECS

GENERAL ROOF PLAN NOTES

1. Refer to general information sheet for general notes, abbreviations, symbols, legends and alternates.
2. All roof mounted equipment to be placed with special attention to visibility and sight lines, and are to be confirmed in the field with the Architect prior to starting work. Field coordinate height of all mechanical screens to ensure all roof-mounted equipment is fully screened.
3. Vent pipes and all other roof penetrations shall be planned carefully prior to rough-in. Consolidate, size, and locate as inconspicuously as possible, with heights as per code-minimum requirements - provide fabricated metal shroud to screen penetrations from view; match roofing material.
4. At sloped metal roofs, wrap and/or clad non-metal items to match material and finish of roofing where metal shroud cannot be provided, such as chimneys.

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STATE OF UTAH
DANIEL HOFFMAN
No. 7829867-0301
June 26, 2017
LICENSED ARCHITECT

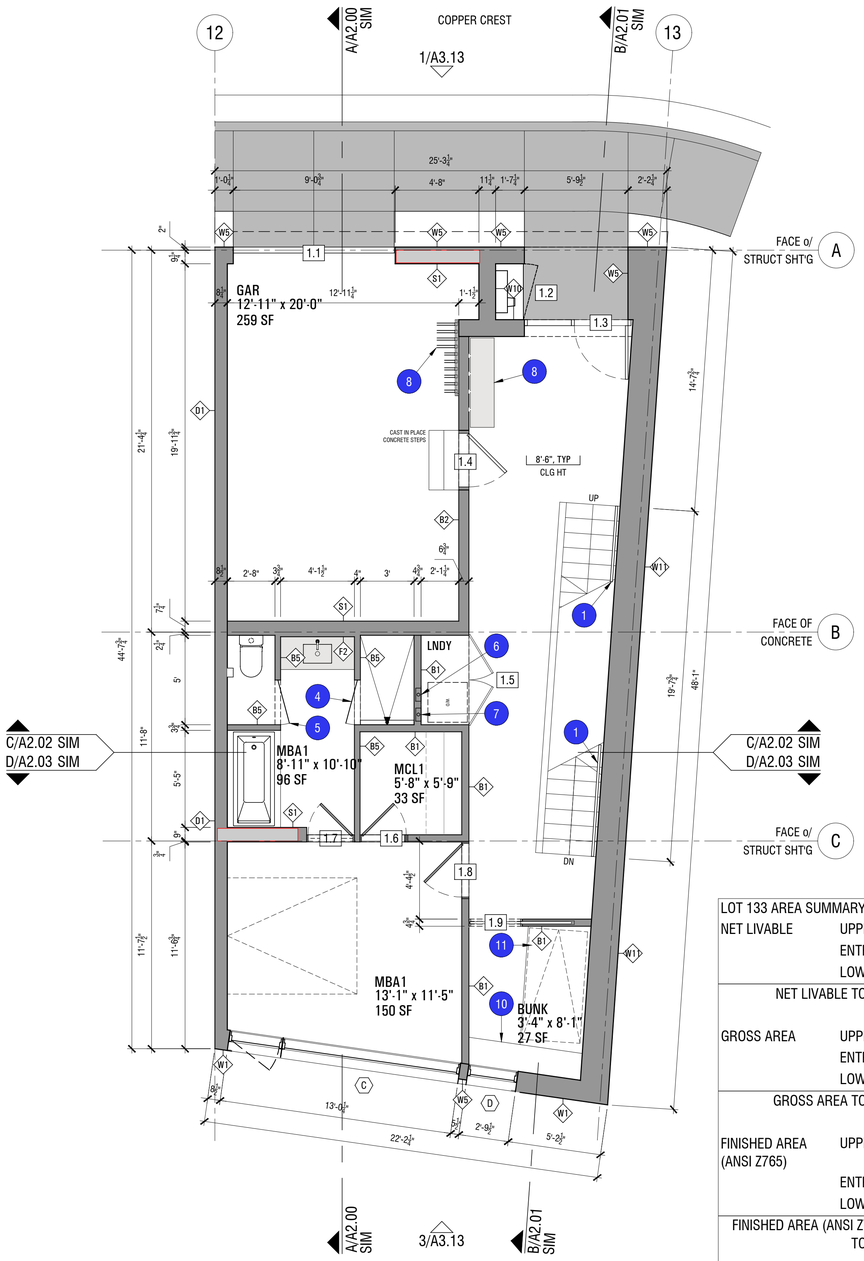
A1.24
LOT 124 UPPER LEVEL AND ROOF PLANS

1/4" = 1'-0"
scale

1

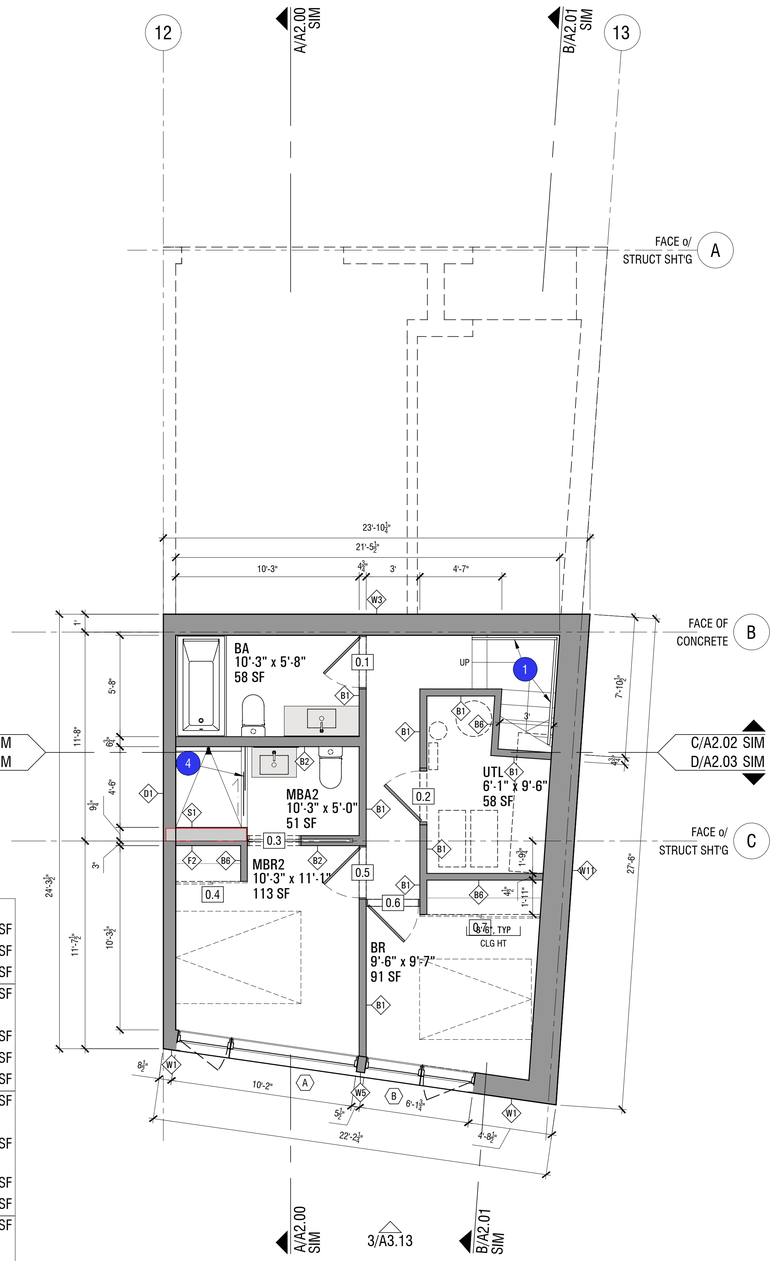
PERMIT SET
phase / rev

2017.06.01
date



2
ENTRY LEVEL FLOOR PLAN
1/4" = 1'-0"

LOT 133 AREA SUMMARY		
NET LIVABLE	UPPER	688 SF
	ENTRY	631 SF
	LOWER	485 SF
NET LIVABLE TOTAL		1803 SF
GROSS AREA	UPPER	827 SF
	ENTRY	1075 SF
	LOWER	582 SF
GROSS AREA TOTAL		2484 SF
FINISHED AREA (ANSI Z765)	UPPER	827 SF
	ENTRY	766 SF
	LOWER	518 SF
FINISHED AREA (ANSI Z765) TOTAL		2112 SF
UNFINISHED AREA (ANSI Z765)	UTILITY ROOM	64 SF
NOT COUNTED AREA (ANSI Z765)	GARAGE AREA	290 SF



1
LOWER LEVEL FLOOR PLAN
1/4" = 1'-0"

GENERAL PLAN NOTES

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   d. All dimensions to new interior walls are to face of finish, typical u.n.o. All dimensions to columns are to center of column, u.n.o.
   e. All dimensions to electrical and plumbing fixtures, appliances, and equipment are to centerline of fixture, typical u.n.o.
   f. Dimensions to window walls are to finished opening / outside face of window jamb, not rough opening, u.n.o.; refer to window wall schedule for additional dimensional requirements.
   g. Dimensions to doors are to door slab, not rough opening, u.n.o.; refer to door schedule for frame size and additional dimensional requirements. Where jamb return is shown, but no dimension is provided, door is to be located 4" from face of adjacent wall to edge of frame.
   h. All datum elevations are from FFE, not subfloor, u.n.o.
   i. All dimensions to floor outlets, or boxes, are subject to field coordination. All locations provided are diagrammatic until field-located with Architect and Owner.
3. All partitions are full height to underside of structural roof or floor sheathing. Walls which also coincide with structural walls shall be as per the structural framing requirements.
   a. Walls above doors shall match wall type for adjacent wall, typical u.n.o.
   b. Walls above and below windows shall be as noted on drawings. Refer to plans for wall tags, and to wall sections and details.
4. Provide additional layers of wood sheathing and/or gypsum wall board (rated where required) as necessary to maintain finish dimensions, and to ensure wall surfaces are flush where structural framing and sheathing are not continuous.
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WALL LEGEND

WOOD FRAME WALL — SHEAR WALL

WALL TYPE
where no tag is provided, bid wall types B2 typ interior, and W1 typ exterior and verify with Architect

- Nominal 2x interior (non-loadbearing) wood framing @ 24" o.c. max., or as noted. At walls with tile, studs to be @ 16" o.c. max. Plate size to match stud size except where noted. All load-bearing walls to be framed as per structural drawings. Wood in contact with concrete to be pressure-treated, provide sill sealer below all exterior wall sill plates.
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KEYNOTES

#	DESCRIPTION	REF. DTL/SHT
1	STAIR HANDRAIL / GUARDRAIL	3,4/A2.10
2	CANTILEVER GLASS GUARDRAIL	2/A5.07
3	KITCHEN ISLAND w/ CABINETS BELOW	
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6	RECESSED DRYERBOX	REF. MECH.
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8	STORAGE AND SPECIALTY EQUIP (SKI RACK, BIKE RACK, BOOT DRYERS)	REF. SPECS
9	FULL HEIGHT MILLWORK/CABINETRY DOORS AND HARDWARE;	REF. MLWK. SPECS REF. INT ELEV.
10	MILLWORK BENCH WITH OPERABLE LID, CUSHION BY OWNER	REF. MLWK. SPECS
11	SIMILAR BUNK CONDITION	A5.12
12	MILLWORK	REF. MLWK. SPECS

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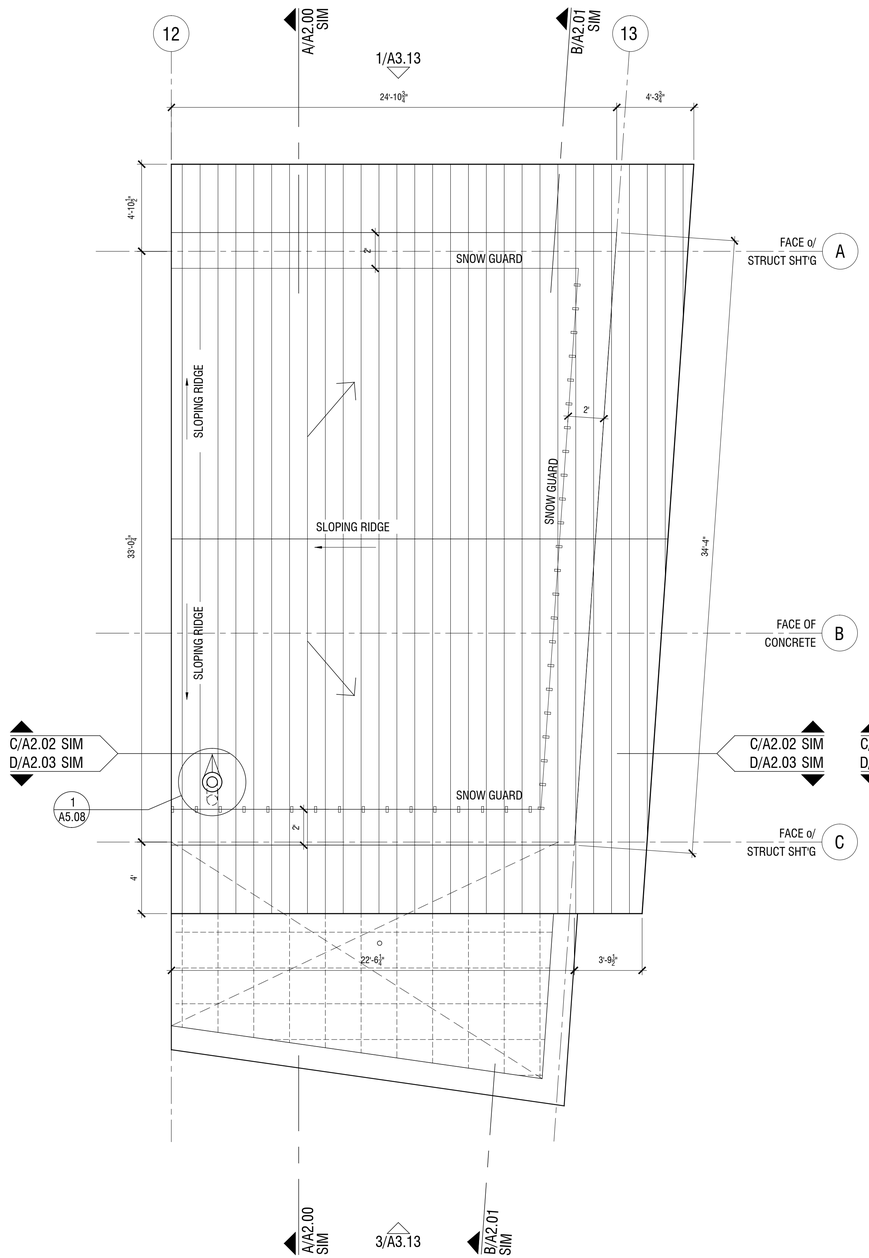
STATE OF UTAH
DANIEL HOFFMAN
No. 7829867-0301
June 1, 2017
LICENSED ARCHITECT

A1.25
LOT 133 ENTRY AND LOWER LEVEL FLOOR PLANS

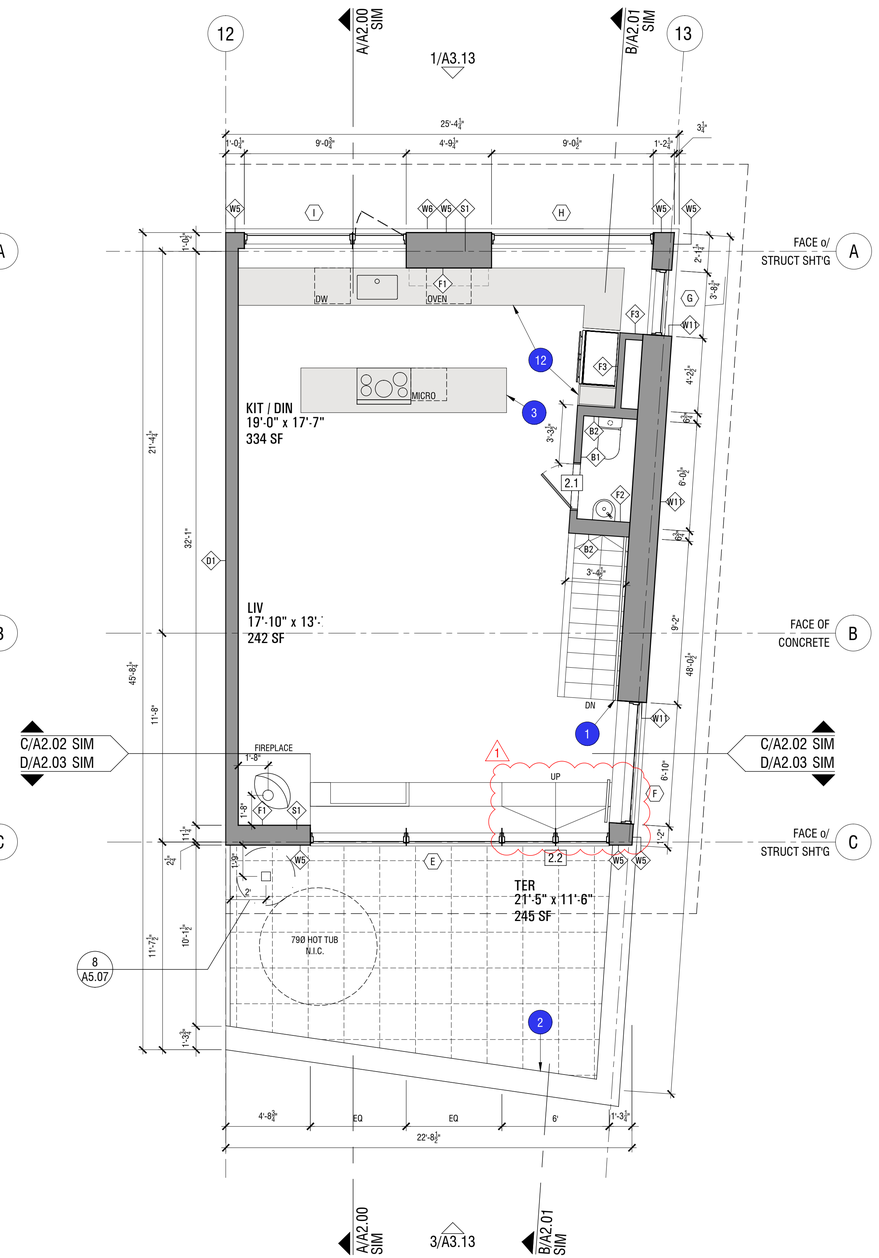
1/4" = 1'-0"
scale

PERMIT SET
phase / rev

2017.06.01
date



2
ROOF FLOOR PLAN
1/4" = 1'-0"



1
UPPER LEVEL FLOOR PLAN
1/4" = 1'-0"

GENERAL PLAN NOTES

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   h. All datum elevations are from FFE, not subfloor, u.n.o.
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WALL LEGEND

WOOD FRAME WALL

SHEAR WALL

WALL TYPE
where no tag is provided, bid wall types B2 typ interior, and W1 typ exterior and verify with Architect

- Nominal 2x interior (non-loadbearing) wood framing @ 24" o.c. max., or as noted. At walls with tile, studs to be @ 16" o.c. max. Plate size to match stud size except where noted. All load-bearing walls to be framed as per structural drawings. Wood in contact with concrete to be pressure-treated, provide sill sealer below all exterior wall sill plates.
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GENERAL ROOF PLAN NOTES

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STATE OF UTAH
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June 26, 2017
LICENSED ARCHITECT

A1.26
LOT 133 UPPER LEVEL AND ROOF PLANS

1/4" = 1'-0"
scale

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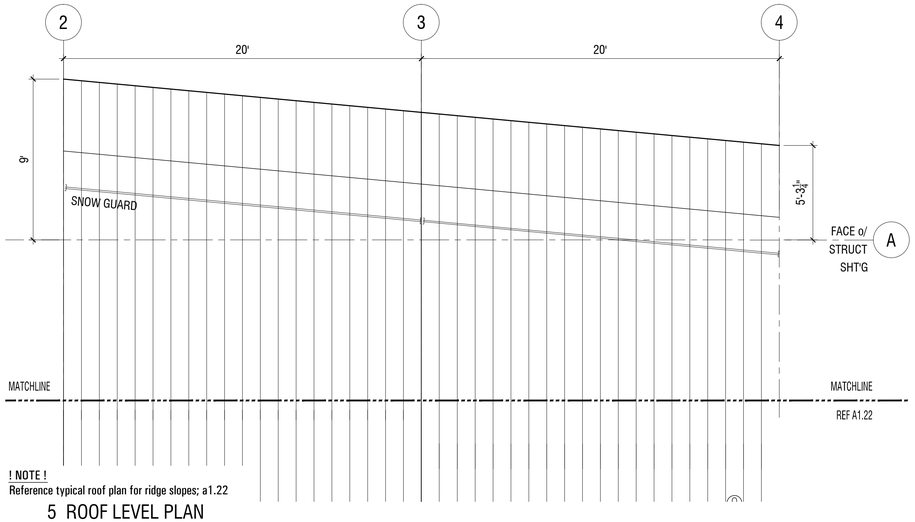
PERMIT SET
phase / rev

2017.06.01
date



! NOTE !
Reference typical roof plan for ridge slopes; a1.22

5 ROOF LEVEL PLAN
1/2" = 1'-0"

1

LOT 125 AREA SUMMARY			LOT 126 AREA SUMMARY		
NET LIVABLE	UPPER	640 SF	NET LIVABLE	UPPER	611 SF
	ENTRY	556 SF		ENTRY	534 SF
	LOWER	427 SF		LOWER	427 SF
NET LIVABLE TOTAL		1623 SF	NET LIVABLE TOTAL		1572 SF
GROSS AREA	UPPER	749 SF	GROSS AREA	UPPER	712 SF
	ENTRY	961 SF		ENTRY	923 SF
	LOWER	506 SF		LOWER	506 SF
GROSS AREA TOTAL		2216 SF	GROSS AREA TOTAL		2140 SF
FINISHED AREA (ANSI Z765)	UPPER	749 SF	FINISHED AREA (ANSI Z765)	UPPER	712 SF
	ENTRY	646 SF		ENTRY	627 SF
	LOWER	416 SF		LOWER	416 SF
FINISHED AREA (ANSI Z765) TOTAL		1811 SF	FINISHED AREA (ANSI Z765) TOTAL		1754 SF
UNFINISHED AREA (ANSI Z765)	UTILITY ROOM	90 SF	UNFINISHED AREA (ANSI Z765)	UTILITY ROOM	90 SF
NOT COUNTED AREA (ANSI Z765)	GARAGE AREA	282 SF	NOT COUNTED AREA (ANSI Z765)	GARAGE AREA	313 SF

MATERIALS LEGEND
GENERAL NOTE: Refer to specifications sheet a0.20 - a0.23 for additional material information and installation requirements.

- WOOD FLOORING
- TILE
- CARPET
- WOOD DECKING

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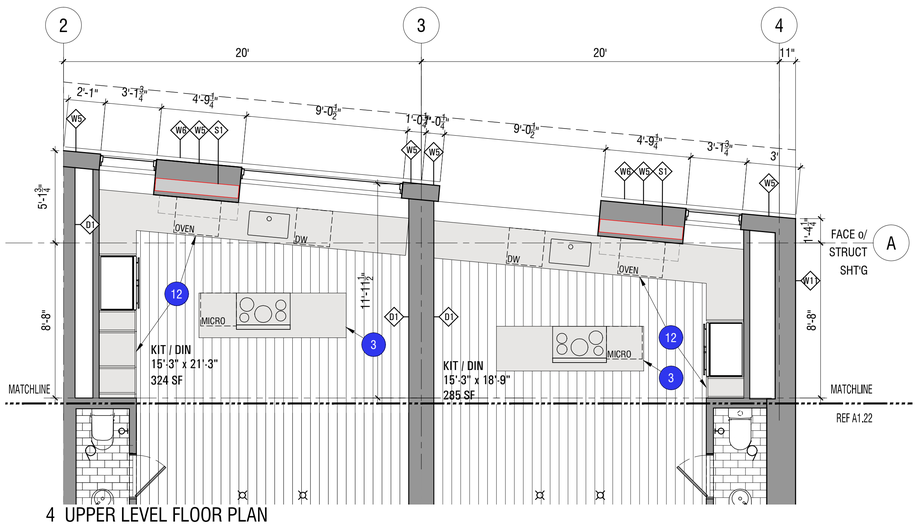
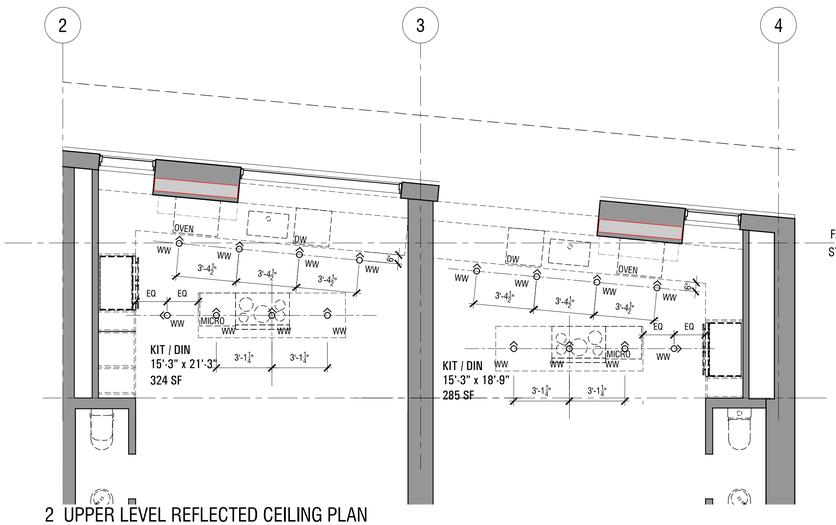
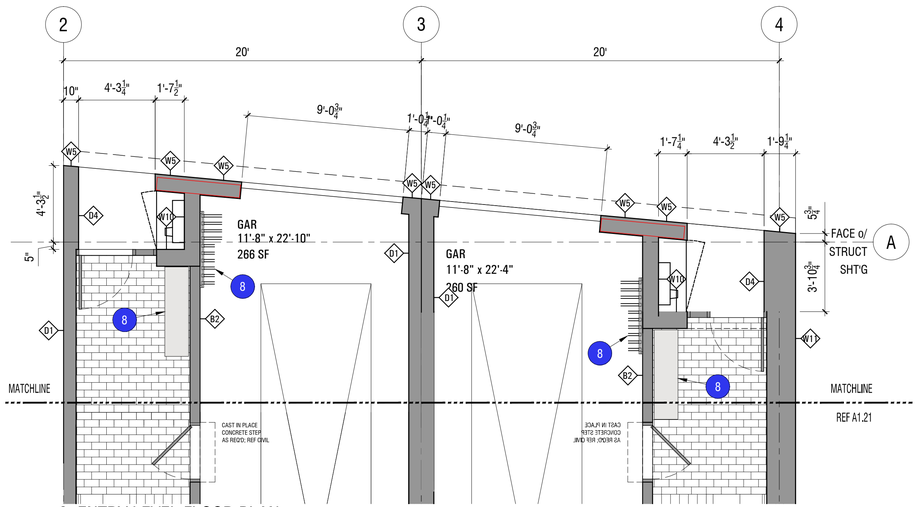
5. Refer to door and window wall schedule for general door and glazing requirements.
6. Refer to finish schedule / legends.
7. Confirm w/ Owner for A/V, telecommunications, fire alarm, and security documents (by others) for all related equipment including, but not limited to, TVs, projectors, projection screens, speakers, a/v, data, fire alarm, and security specific devices, and cabling. All conduit, floor boxes and junction boxes are part of the work as shown and shall be coordinated with the Architect, Owner, and Owner's specialty contractor(s) prior to commencing work. All systems by Owner shall be coordinated by the General Contractor and submitted for review immediately following the notice to proceed so as not to delay the progress of work.



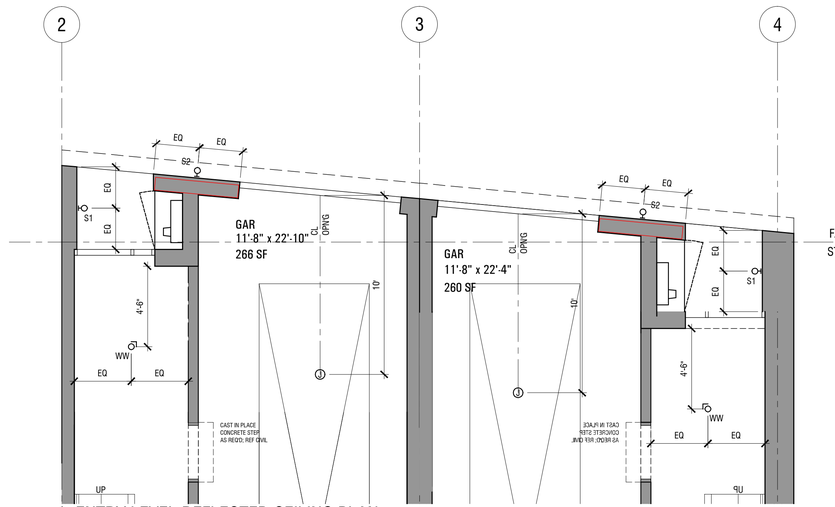
4 UPPER LEVEL FLOOR PLAN
1/2" = 1'-0"



2 UPPER LEVEL REFLECTED CEILING PLAN
1/2" = 1'-0"



3 ENTRY LEVEL FLOOR PLAN
1/2" = 1'-0"



1 ENTRY LEVEL REFLECTED CEILING PLAN
1/2" = 1'-0"

WALL LEGEND
- WOOD FRAME WALL
- SHEAR WALL
- WALL TYPE (#) where no tag is provided, bid wall types B2 typ interior, and W1 typ exterior and verify with Architect

- Nominal 2x interior (non-loadbearing) wood framing @ 24" o.c. max., or as noted. At walls with tile, studs to be @ 16" o.c. max. Plate size to match stud size except where noted. All load-bearing walls to be framed as per structural drawings. Wood in contact with concrete to be pressure-treated, provide sill sealer below all exterior wall sill plates.
- Fill all stud cavities with insulation - thermal insulation @ exterior walls; acoustic insulation @ interior walls. Refer to wall types and specifications for types and configurations.

KEYNOTES

#	DESCRIPTION	REF. DTL/SHT
1	STAIR HANDRAIL / GUARDRAIL	3,4/A2.10
2	CANTILEVER GLASS GUARDRAIL	2/A5.07
3	KITCHEN ISLAND w/ CABINETS BELOW	
4	GLASS SHOWER ENCLOSURE & DR	
5	GLASS WATER CLOSET ENCLOSURE & DR	
6	RECESSED DRYERBOX	REF. MECH.
7	RECESSED WASHER BOX	REF. PLBG.
8	STORAGE AND SPECIALTY EQUIP (SKI RACK, BIKE RACK, BOOT DRYERS)	REF. SPECS
9	FULL HEIGHT MILLWORK/CABINETRY DOORS AND HARDWARE;	REF. MLWK. SPECS REF. INT ELEV.
10	MILLWORK BENCH WITH OPERABLE LID, CUSHION BY OWNER	REF. MLWK. SPECS
11	SIMILAR BUNK CONDITION	A5.12
12	MILLWORK	REF. MLWK. SPECS

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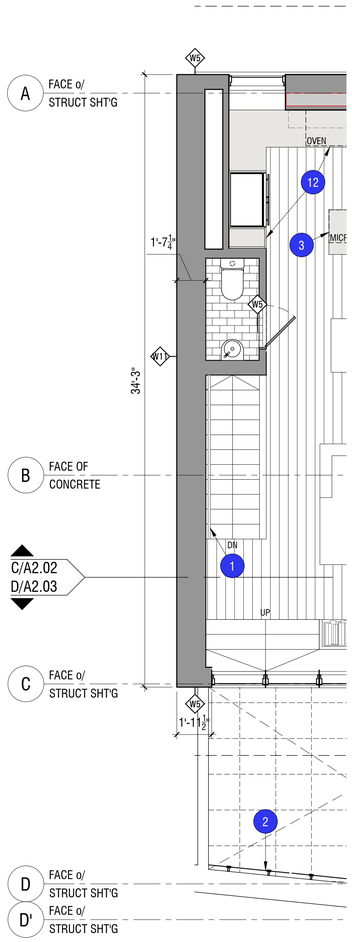
STATE OF UTAH
DANIEL HOFFMAN
No. 7829867-0301
June 26, 2017
LICENSED ARCHITECT

A1.27
LOTS 125 & 126 PARTIAL PLANS AND REFLECTED CEILING PLANS
AS NOTED
scale

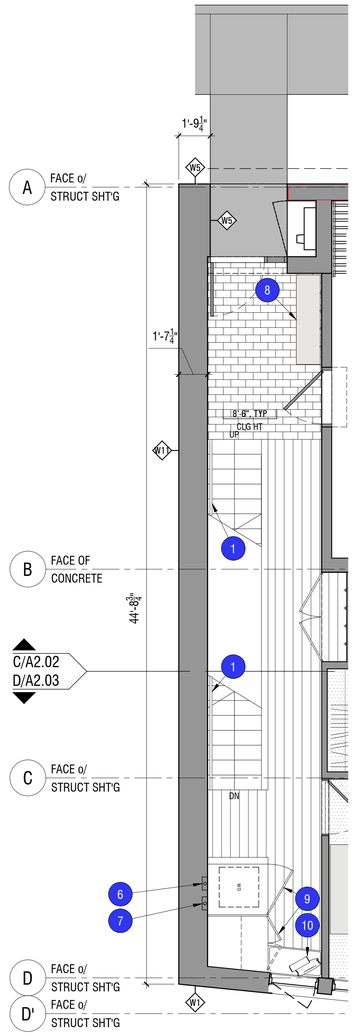
1

PERMIT SET
phase / rev

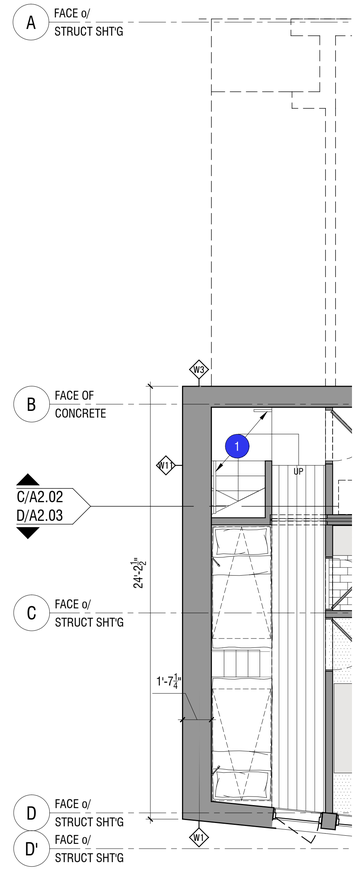
2017.06.01
date



3
UPPER LEVEL FLOOR PLAN
1/2" = 1'-0"



2
ENTRY LEVEL FLOOR PLAN
1/2" = 1'-0"



1
LOWER LEVEL FLOOR PLAN
1/2" = 1'-0"

MATERIALS LEGEND

GENERAL NOTE: Refer to specifications sheet a0.20 - a0.21 for additional material information and installation requirements.

- WOOD FLOORING
- TILE
- CARPET
- WOOD DECKING

GENERAL PLAN NOTES

1. Refer to general information sheet for general notes, abbreviations, symbols, legends and alternates.
2. General dimensioning requirements:
   a. All dimensions from existing structures are from face of masonry/concrete wall, or face of finish, typical unless noted otherwise (u.n.o.).
   b. All dimensions relative to existing conditions shall be verified in field, typical.
   c. All dimensions to new exterior work are to face of structural sheathing / face of concrete, typical u.n.o.
   d. All dimensions to new interior walls are to face of finish, typical u.n.o. All dimensions to columns are to center of column, u.n.o.
   e. All dimensions to electrical and plumbing fixtures, appliances, and equipment are to centerline of fixture, typical u.n.o.
   f. Dimensions to window walls are to finished opening / outside face of window jamb, not rough opening, u.n.o.; refer to window wall schedule for additional dimensional requirements.
   g. Dimensions to doors are to door slab, not rough opening, u.n.o.; refer to door schedule for frame size and additional dimensional requirements. Where jamb return is shown, but no dimension is provided, door is to be located 4" from face of adjacent wall to edge of frame.
   h. All datum elevations are from FFE, not subfloor, u.n.o.
   i. All dimensions to floor outlets, or boxes, are subject to field coordination. All locations provided are diagrammatic until field-located with Architect and Owner.
3. All partitions are full height to underside of structural roof or floor sheathing. Walls which also coincide with structural walls shall be as per the structural framing requirements.
   a. Walls above doors shall match wall type for adjacent wall, typical u.n.o.
   b. Walls above and below windows shall be as noted on drawings. Refer to plans for wall tags, and to wall sections and details.
4. Provide additional layers of wood sheathing and/or gypsum wall board (rated where required) as necessary to maintain finish dimensions, and to ensure wall surfaces are flush where structural framing and sheathing are not continuous.
5. Refer to door and window wall schedule for general door and glazing requirements.
6. Refer to finish schedule / legends.
7. Confirm w/ Owner for A/V, telecommunications, fire alarm, and security documents (by others) for all related equipment including, but not limited to, TVs, projectors, projection screens, speakers, a/v, data, fire alarm, and security specific devices, and cabling. All conduit, floor boxes and junction boxes are part of the work as shown and shall be coordinated with the Architect, Owner, and Owner's specialty contractor(s) prior to commencing work. All systems by Owner shall be coordinated by the General Contractor and submitted for review immediately following the notice to proceed so as not to delay the progress of work.

WALL LEGEND

- WOOD FRAME WALL
- SHEAR WALL
- # WALL TYPE
  where no tag is provided, bid wall types B2 typ interior, and W1 typ exterior and verify with Architect

- Nominal 2x interior (non-loadbearing) wood framing @ 24" o.c. max., or as noted. At walls with tile, studs to be @ 16" o.c. max. Plate size to match stud size except where noted. All load-bearing walls to be framed as per structural drawings. Wood in contact with concrete to be pressure-treated, provide sill sealer below all exterior wall sill plates.
- Fill all stud cavities with insulation - thermal insulation @ exterior walls; acoustic insulation @ interior walls. Refer to wall types and specifications for types and configurations.

KEYNOTES

#	DESCRIPTION	REF. DTL/SHT
1	STAIR HANDRAIL / GUARDRAIL	3,4/A2.10
2	CANTILEVER GLASS GUARDRAIL	2/A5.07
3	KITCHEN ISLAND w/ CABINETS BELOW	
4	GLASS SHOWER ENCLOSURE & DR	
5	GLASS WATER CLOSET ENCLOSURE & DR	
6	RECESSED DRYERBOX	REF. MECH.
7	RECESSED WASHER BOX	REF. PLBG.
8	STORAGE AND SPECIALTY EQUIP (SKI RACK, BIKE RACK, BOOT DRYERS)	REF. SPECS
9	FULL HEIGHT MILLWORK/CABINETRY DOORS AND HARDWARE;	REF. MLWK. SPECS REF. INT ELEV.
10	MILLWORK BENCH WITH OPERABLE LID, CUSHION BY OWNER	REF. MLWK. SPECS
11	SIMILAR BUNK CONDITION	A5.12
12	MILLWORK	REF. MLWK. SPECS

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STATE OF UTAH
DANIEL HOFFMAN
No. 7829887-0301
June 1, 2017
LICENSED ARCHITECT

A1.28
TYPICAL UNIT END WALL CONDITION

1/4" = 1'-0"
scale

PERMIT SET
phase / rev

2017.06.01
date

3
UPPER LEVEL REFLECTED CEILING PLAN
1/4" = 1'-0"

2
ENTRY LEVEL REFLECTED CEILING PLAN
1/4" = 1'-0"

1
LOWER LEVEL REFLECTED CEILING PLAN
1/4" = 1'-0"

GENERAL REFLECTED CEILING PLAN NOTES

1. Refer to electrical drawings for lighting fixture schedule, switching and additional information.
2. Refer to mechanical drawings for diffuser/grille schedule and additional info.
3. Dimensions from walls are taken from face of finish, typical unless noted otherwise.
4. Dimensions to fixtures are provided to centerline of fixture, typical unless noted otherwise.
5. Final locations of access panels to be coordinated in field prior to commencement of ceiling work.
6. Refer to structural framing plan for structure layout and dimensional controls. NOTE TO GC: Coordinate joist layout with recessed fixtures to ensure alignments as indicated - make provisions for additional framing members as required to maintain fixture locations. Consult with Architect prior to proceeding with work where conflicts occur between fixture locations as dimensioned and field verified joist locations.
7. All ceiling-mounted fixtures, devices, and other elements are to be located with careful attention to centering and alignment. Any elements not indicated, but required to be installed are to be centered on other ceiling features - review with Architect prior to proceeding with work.

LIGHTING FIXTURE SCHEDULE

TAG	MTG.	MFR.	CATALOG No.	VOLT	LAMPS	REMARKS
WW	REC	ACULUX	3-1/4in, IC43N SERIES ADJUSTABLE w/ WHITE FINISH, WET LOCATION, IC RATED, BI-PIN SOCKET BASE	120	LED	ADJ. DOWNLIGHT
WWE	REC	ACULUX	3-1/4in, IC43N SERIES ADJUSTABLE w/ WHITE FINISH, WET LOCATION, IC RATED, BI-PIN SOCKET BASE	120	LED	WET LOCATION ADJ. DOWNLIGHT
SL	REC	BEGA	22 230, WHITE FINISH w/ REMOTE DRIVER	120	LED	STEP LIGHT
ML	WALL	LEUCOS	VITTORIA P2 LED SATIN WHITE/POLISHED CHROME	120	LED	MIRROR LIGHT. WALL SCONCE
SH	REC	ACULUX	3-1/4in, IC43N SERIES w/ WHITE FINISH, WET LOCATION w/ SHOWER TRIM, IC RATED, BI-PIN SOCKET BASE	120	LED	SHOWER TRIM DOWNLIGHT
E#	SURF	AXIS	BOX MINI LED, WHITE FINISH	120	LED	STRIP LIGHT. # = FIXTURE LENGTH, IN FEET
D#	WALL	AXIS	BOX MINI LED, WHITE FINISH	120	LED	STRIP LIGHT. # = FIXTURE LENGTH, IN FEET
WS1	WALL	WAC LTG	WS-W65607, BRONZE FINISH	120	LED	WALL SCONCE w/UP&DN DIST.
WS2	WALL	CERNO	'LIBRI' HARDWIRED, w/ ALUM BACKER PLATE	120	LED	NON-SWITCHED, NON-DIMMING
S1	WALL	WAC LTG	WS-W65607, BRONZE FINISH	120	LED	WET LOCATION WALL SCONCE
S2	WALL	LOUIS POULSEN	AJ 50 WALL LED, BLACK FINISH	120	LED	WET LOCATION WALL SCONCE, DECORATIVE
E	PEND	PROVIDED BY OWNER - INSTALLED BY E.C.		120	INCAN	DECORATIVE PENDANT
SF	CLG	DELTA LIGHT	TWEETER ON 2 REO 3033 DIM1	120	LED	CEILING SURFACE MT w/ FAN-RATED J-BOX
DS	REC		BY CONTRACTOR			DOOR SWITCH
OCC	SURF		BY CONTRACTOR			OCCUPANCY SENSOR

LIGHTING FIXTURE SCHEDULE GENERAL NOTES:

1. ALL LIGHTS TO BE PROVIDED WITH DIMMING CAPABILITY AND DIMMER SWITCHES.
2. ALL L.E.D. LAMPS TO BE 3000K, MINIMUM CRI OF 82, UNLESS NOTED OTHERWISE
3. ALL WALL WASH AND SHOWER FIXTURES TO BE PROVIDED w/ LED BI-PIN SOCKET LAMPS BY SORAA MR16 GU10 9W (590 LUMENS) 'BRILLIANT'

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STATE OF UTAH
DANIEL HOFFMAN
No. 7829867-0301
June 26, 2017
LICENSED ARCHITECT

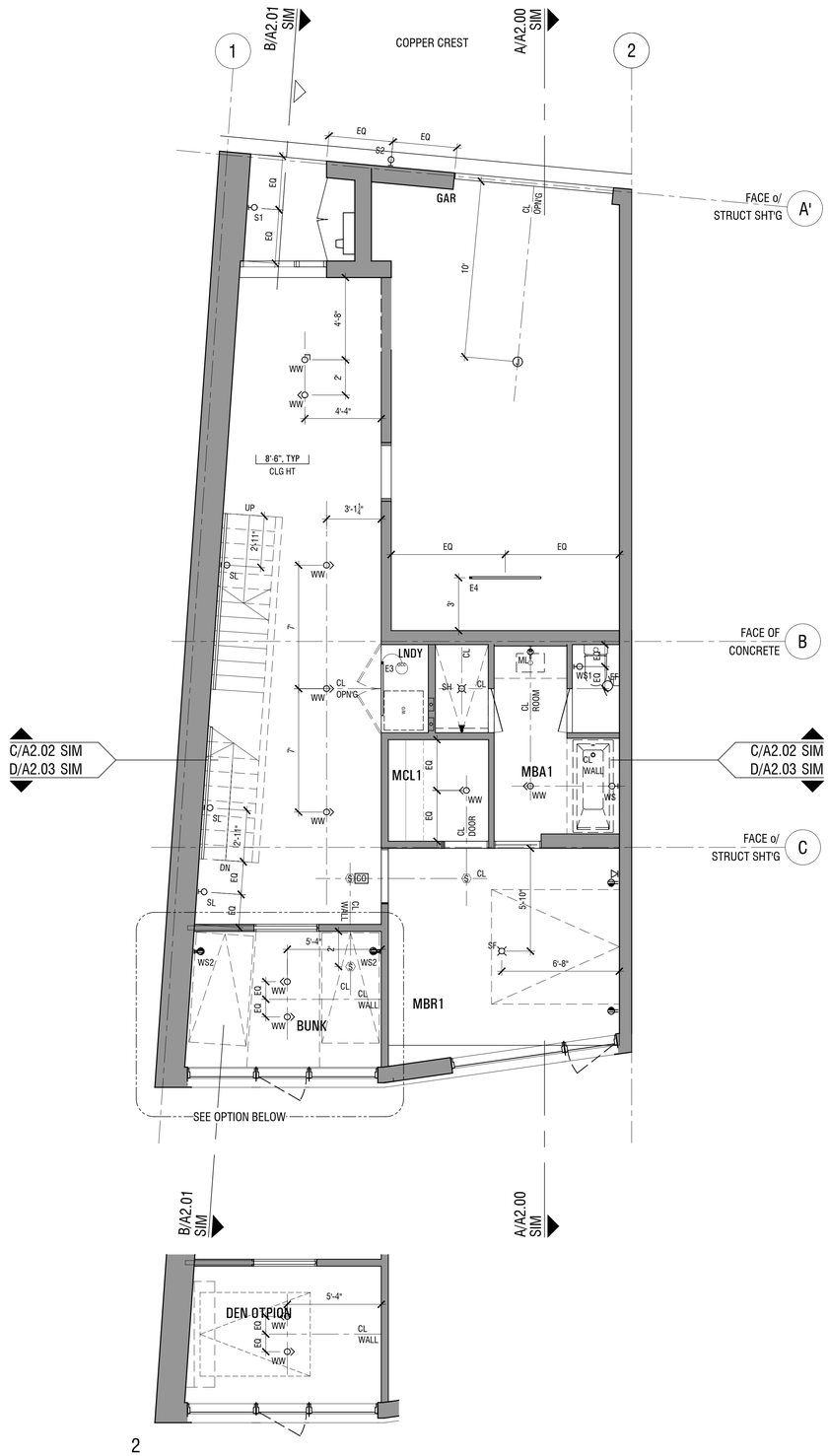
A1.51
TYPICAL UNIT REFLECTED CEILING PLANS

1/4" = 1'-0"
scale

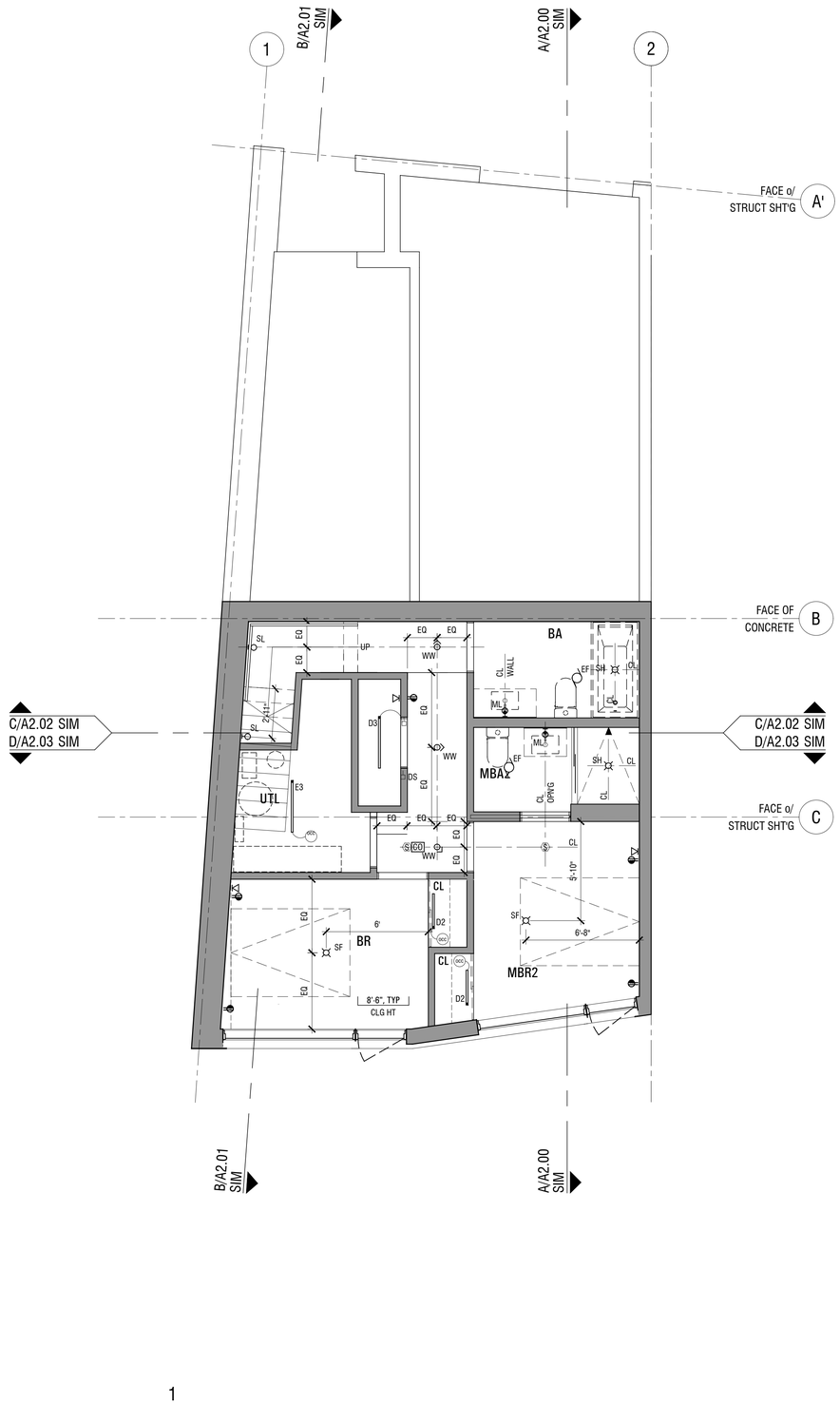
1

PERMIT SET
phase / rev

2017.06.01
date



2
ENTRY LEVEL REFLECTED CEILING PLAN
1/4" = 1'-0"



1
LOWER LEVEL REFLECTED CEILING PLAN
1/4" = 1'-0"

GENERAL REFLECTED CEILING PLAN NOTES

1. Refer to electrical drawings for lighting fixture schedule, switching and additional information.
2. Refer to mechanical drawings for diffuser/grille schedule and additional info.
3. Dimensions from walls are taken from face of finish, typical unless noted otherwise.
4. Dimensions to fixtures are provided to centerline of fixture, typical unless noted otherwise.
5. Final locations of access panels to be coordinated in field prior to commencement of ceiling work.
6. Refer to structural framing plan for structure layout and dimensional controls. NOTE TO GC: Coordinate joist layout with recessed fixtures to ensure alignments as indicated - make provisions for additional framing members as required to maintain fixture locations. Consult with Architect prior to proceeding with work where conflicts occur between fixture locations as dimensioned and field verified joist locations.
7. All ceiling-mounted fixtures, devices, and other elements are to be located with careful attention to centering and alignment. Any elements not indicated, but required to be installed are to be centered on other ceiling features - review with Architect prior to proceeding with work.

LIGHTING FIXTURE SCHEDULE

TAG	MTG.	MFR.	CATALOG No.	VOLT	LAMPS	REMARKS
WW	REC	ACULUX	3-1/4in, IC43N SERIES ADJUSTABLE w/ WHITE FINISH, WET LOCATION, IC RATED, BI-PIN SOCKET BASE	120	LED	ADJ. DOWNLIGHT
WWE	REC	ACULUX	3-1/4in, IC43N SERIES ADJUSTABLE w/ WHITE FINISH, WET LOCATION, IC RATED, BI-PIN SOCKET BASE	120	LED	WET LOCATION ADJ. DOWNLIGHT
SL	REC	BEGA	22 230, WHITE FINISH w/ REMOTE DRIVER	120	LED	STEP LIGHT
ML	WALL	LEUCOS	VITTORIA P2 LED SATIN WHITE/POLISHED CHROME	120	LED	MIRROR LIGHT. WALL SCONCE
SH	REC	ACULUX	3-1/4in, IC43N SERIES w/ WHITE FINISH, WET LOCATION w/ SHOWER TRIM, IC RATED, BI-PIN SOCKET BASE	120	LED	SHOWER TRIM DOWNLIGHT
E#	SURF	AXIS	BOX MINI LED, WHITE FINISH	120	LED	STRIP LIGHT. # = FIXTURE LENGTH, IN FEET
D#	WALL	AXIS	BOX MINI LED, WHITE FINISH	120	LED	STRIP LIGHT. # = FIXTURE LENGTH, IN FEET
WS1	WALL	WAC LTG	WS-W65607, BRONZE FINISH	120	LED	WALL SCONCE w/UP&DN DIST.
WS2	WALL	CERNO	'LIBRI' HARDWIRED, w/ ALUM BACKER PLATE	120	LED	NON-SWITCHED, NON-DIMMING
S1	WALL	WAC LTG	WS-W65607, BRONZE FINISH	120	LED	WET LOCATION WALL SCONCE
S2	WALL	LOUIS POULSEN	AJ 50 WALL LED, BLACK FINISH	120	LED	WET LOCATION WALL SCONCE, DECORATIVE
E	PEND	PROVIDED BY OWNER - INSTALLED BY E.C.		120	INCAN	DECORATIVE PENDANT
SF	CLG	DELTA LIGHT	TWEETER ON 2 REO 3033 DIM1	120	LED	CEILING SURFACE MT w/ FAN-RATED J-BOX
DS	REC		BY CONTRACTOR			DOOR SWITCH
OCC	SURF		BY CONTRACTOR			OCCUPANCY SENSOR

LIGHTING FIXTURE SCHEDULE GENERAL NOTES:

1. ALL LIGHTS TO BE PROVIDED WITH DIMMING CAPABILITY AND DIMMER SWITCHES.
2. ALL L.E.D. LAMPS TO BE 3000K, MINIMUM CRI OF 82, UNLESS NOTED OTHERWISE
3. ALL WALL WASH AND SHOWER FIXTURES TO BE PROVIDED w/ LED BI-PIN SOCKET LAMPS BY SORAA MR16 GU10 9W (590 LUMENS) 'BRILLIANT'

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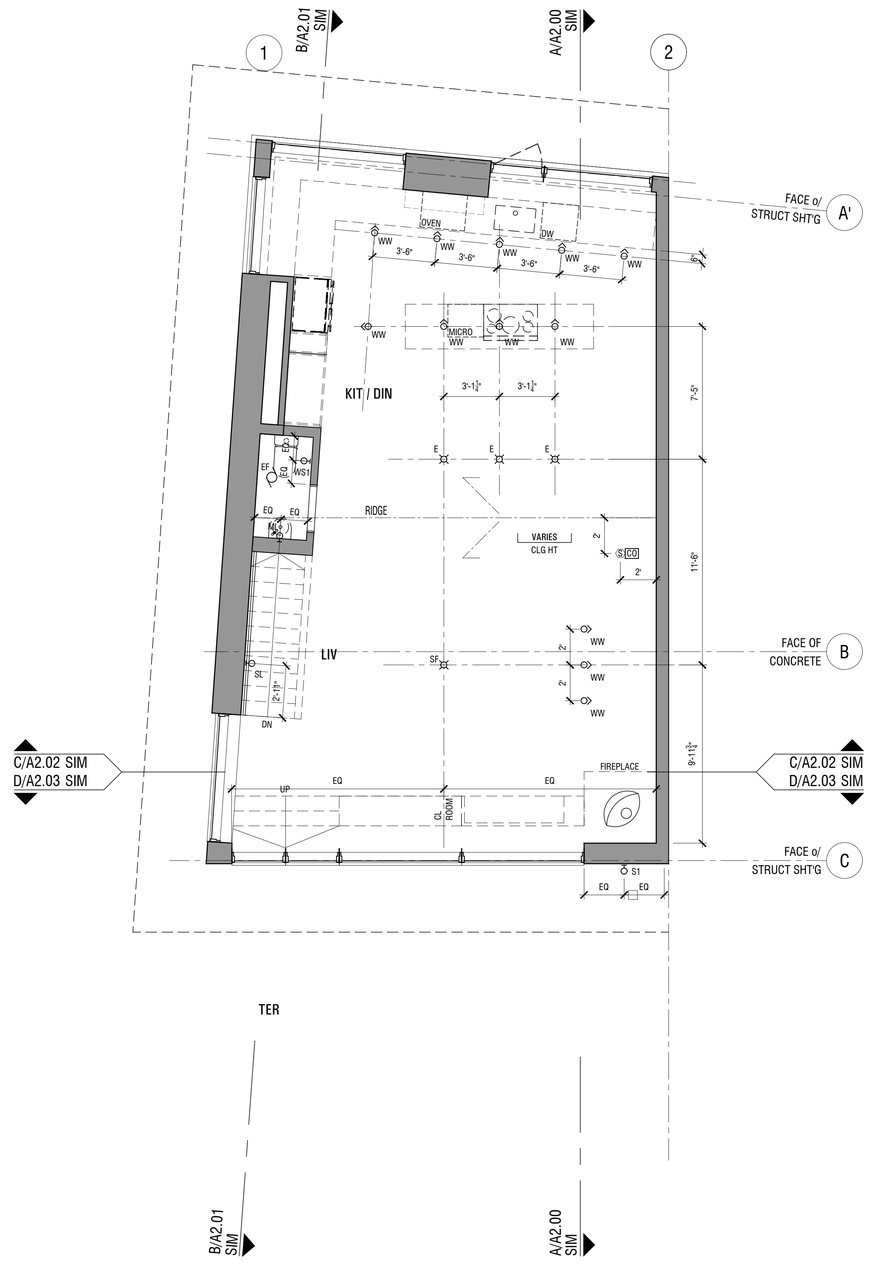
STATE OF UTAH
DANIEL HOFFMAN
No. 7823687-0301
June 1, 2017
LICENSED ARCHITECT

A1.53
LOT 124 ENTRY AND LOWER LEVEL REFLECTED CEILING PLANS
1/4" = 1'-0"
scale

PERMIT SET
phase / rev

2017.06.01
date



1
LOWER LEVEL REFLECTED CEILING PLAN
1/4" = 1'-0"

GENERAL REFLECTED CEILING PLAN NOTES

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6. Refer to structural framing plan for structure layout and dimensional controls. NOTE TO GC: Coordinate joist layout with recessed fixtures to ensure alignments as indicated - make provisions for additional framing members as required to maintain fixture locations. Consult with Architect prior to proceeding with work where conflicts occur between fixture locations as dimensioned and field verified joist locations.
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LIGHTING FIXTURE SCHEDULE

TAG	MTG.	MFR.	CATALOG No.	VOLT	LAMPS	REMARKS
WW	REC	ACULUX	3-1/4in, IC43N SERIES ADJUSTABLE w/ WHITE FINISH, WET LOCATION, IC RATED, BI-PIN SOCKET BASE	120	LED	ADJ. DOWNLIGHT
WWE	REC	ACULUX	3-1/4in, IC43N SERIES ADJUSTABLE w/ WHITE FINISH, WET LOCATION, IC RATED, BI-PIN SOCKET BASE	120	LED	WET LOCATION ADJ. DOWNLIGHT
SL	REC	BEGA	22 230, WHITE FINISH w/ REMOTE DRIVER	120	LED	STEP LIGHT
ML	WALL	LEUCOS	VITTORIA P2 LED SATIN WHITE/POLISHED CHROME	120	LED	MIRROR LIGHT. WALL SCONCE
SH	REC	ACULUX	3-1/4in, IC43N SERIES w/ WHITE FINISH, WET LOCATION w/ SHOWER TRIM, IC RATED, BI-PIN SOCKET BASE	120	LED	SHOWER TRIM DOWNLIGHT
E#	SURF	AXIS	BOX MINI LED, WHITE FINISH	120	LED	STRIP LIGHT. # = FIXTURE LENGTH, IN FEET
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WS1	WALL	WAC LTG	WS-W65607, BRONZE FINISH	120	LED	WALL SCONCE w/UP&DN DIST.
WS2	WALL	CERNO	'LIBRI' HARDWIRED, w/ ALUM BACKER PLATE	120	LED	NON-SWITCHED, NON-DIMMING
S1	WALL	WAC LTG	WS-W65607, BRONZE FINISH	120	LED	WET LOCATION WALL SCONCE
S2	WALL	LOUIS POULSEN	AJ 50 WALL LED, BLACK FINISH	120	LED	WET LOCATION WALL SCONCE, DECORATIVE
E	PEND	PROVIDED BY OWNER - INSTALLED BY E.C.		120	INCAN	DECORATIVE PENDANT
SF	CLG	DELTA LIGHT	TWEETER ON 2 REO 3033 DIM1	120	LED	CEILING SURFACE MT w/ FAN-RATED J-BOX
DS	REC		BY CONTRACTOR			DOOR SWITCH
OCC	SURF		BY CONTRACTOR			OCCUPANCY SENSOR

LIGHTING FIXTURE SCHEDULE GENERAL NOTES:

1. ALL LIGHTS TO BE PROVIDED WITH DIMMING CAPABILITY AND DIMMER SWITCHES.
2. ALL L.E.D. LAMPS TO BE 3000K, MINIMUM CRI OF 82, UNLESS NOTED OTHERWISE
3. ALL WALL WASH AND SHOWER FIXTURES TO BE PROVIDED w/ LED BI-PIN SOCKET LAMPS BY SORAA MR16 GU10 9W (590 LUMENS) 'BRILLIANT'

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sma project name
POWDERCAT

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reston, va 20191
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MECH/PLBG/ELEC
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phoenix, az 85020
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langvardt design group
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salt lake city, ut 84101
t (801) 583-1295

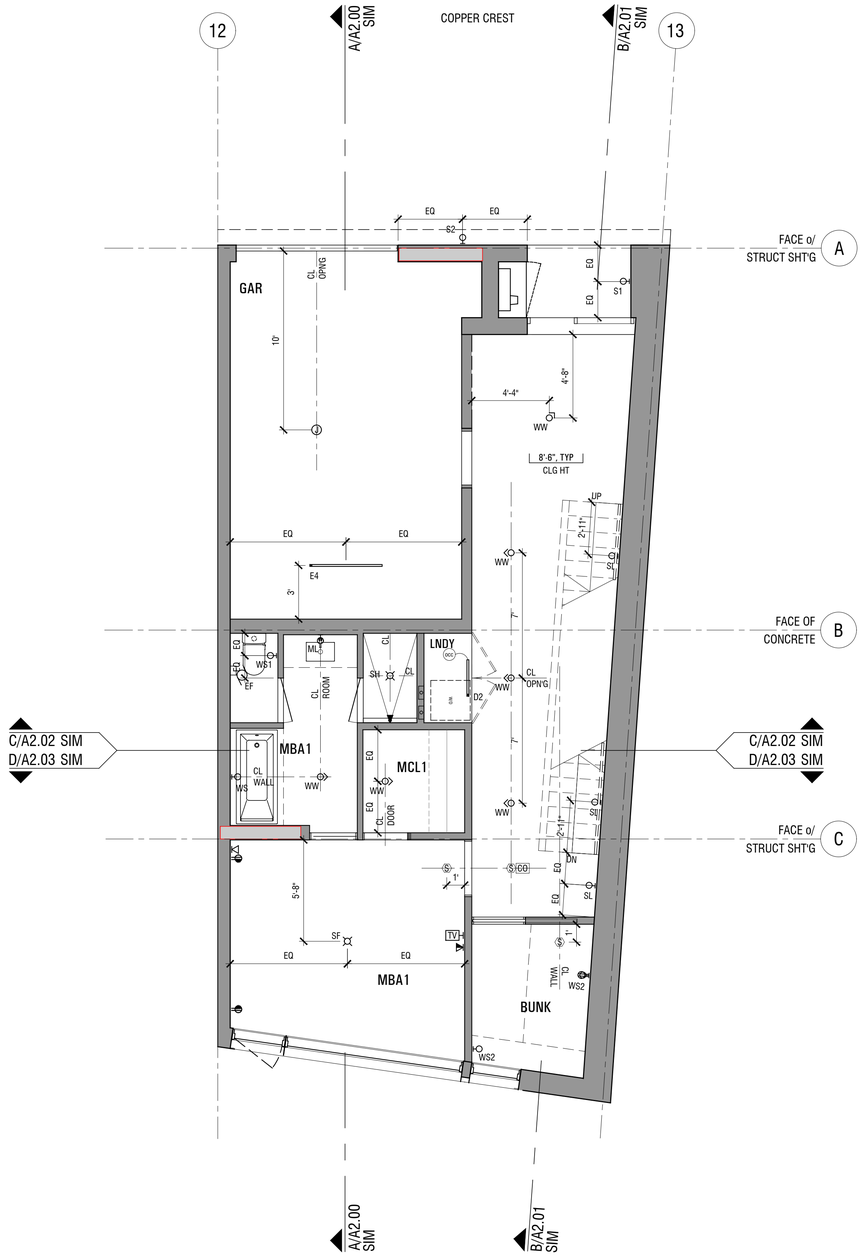
STATE OF UTAH
DANIEL HOFFMAN
No. 7829867-0301
June 1, 2017
LICENSED ARCHITECT

A1.54
LOT 124 UPPER LEVEL REFLECTED CEILING PLAN

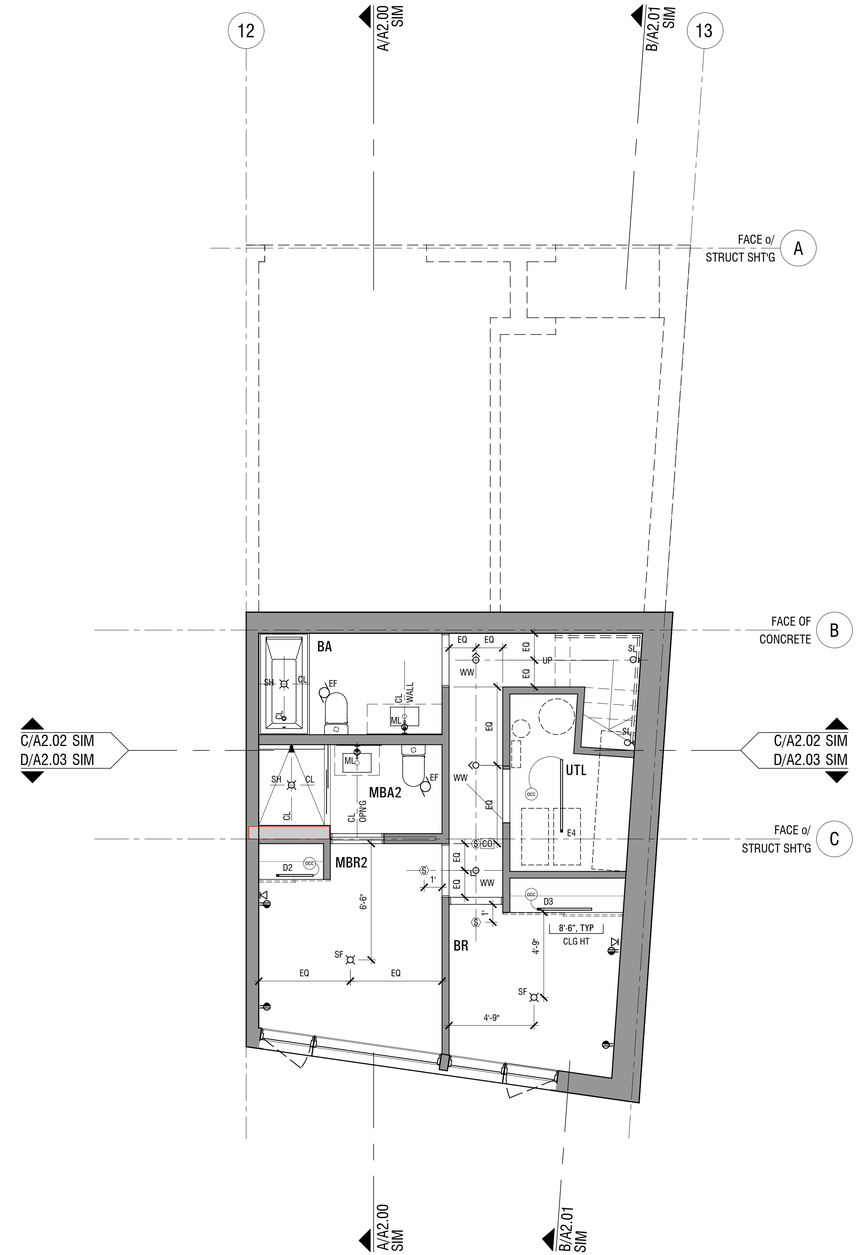
1/4" = 1'-0"
scale

PERMIT SET
phase / rev

2017.06.01
date



2
ENTRY LEVEL REFLECTED CEILING PLAN
1/4" = 1'-0"



1
LOWER LEVEL REFLECTED CEILING PLAN
1/4" = 1'-0"

GENERAL REFLECTED CEILING PLAN NOTES

1. Refer to electrical drawings for lighting fixture schedule, switching and additional information.
2. Refer to mechanical drawings for diffuser/grille schedule and additional info.
3. Dimensions from walls are taken from face of finish, typical unless noted otherwise.
4. Dimensions to fixtures are provided to centerline of fixture, typical unless noted otherwise.
5. Final locations of access panels to be coordinated in field prior to commencement of ceiling work.
6. Refer to structural framing plan for structure layout and dimensional controls. NOTE TO GC: Coordinate joist layout with recessed fixtures to ensure alignments as indicated - make provisions for additional framing members as required to maintain fixture locations. Consult with Architect prior to proceeding with work where conflicts occur between fixture locations as dimensioned and field verified joist locations.
7. All ceiling-mounted fixtures, devices, and other elements are to be located with careful attention to centering and alignment. Any elements not indicated, but required to be installed are to be centered on other ceiling features - review with Architect prior to proceeding with work.

LIGHTING FIXTURE SCHEDULE

TAG	MTG.	MFR.	CATALOG No.	VOLT	LAMPS	REMARKS
WW	REC	ACULUX	3-1/4in, IC43N SERIES ADJUSTABLE w/ WHITE FINISH, WET LOCATION, IC RATED, BI-PIN SOCKET BASE	120	LED	ADJ. DOWNLIGHT
WWE	REC	ACULUX	3-1/4in, IC43N SERIES ADJUSTABLE w/ WHITE FINISH, WET LOCATION, IC RATED, BI-PIN SOCKET BASE	120	LED	WET LOCATION ADJ. DOWNLIGHT
SL	REC	BEGA	22 230, WHITE FINISH w/ REMOTE DRIVER	120	LED	STEP LIGHT
ML	WALL	LEUCOS	VITTORIA P2 LED SATIN WHITE/POLISHED CHROME	120	LED	MIRROR LIGHT. WALL SCONCE
SH	REC	ACULUX	3-1/4in, IC43N SERIES w/ WHITE FINISH, WET LOCATION w/ SHOWER TRIM, IC RATED, BI-PIN SOCKET BASE	120	LED	SHOWER TRIM DOWNLIGHT
E#	SURF	AXIS	BOX MINI LED, WHITE FINISH	120	LED	STRIP LIGHT. # = FIXTURE LENGTH, IN FEET
D#	WALL	AXIS	BOX MINI LED, WHITE FINISH	120	LED	STRIP LIGHT. # = FIXTURE LENGTH, IN FEET
WS1	WALL	WAC LTG	WS-W65607, BRONZE FINISH	120	LED	WALL SCONCE w/UP&DN DIST.
WS2	WALL	CERNO	'LIBRI' HARDWIRED, w/ ALUM BACKER PLATE	120	LED	NON-SWITCHED, NON-DIMMING
S1	WALL	WAC LTG	WS-W65607, BRONZE FINISH	120	LED	WET LOCATION WALL SCONCE
S2	WALL	LOUIS POULSEN	AJ 50 WALL LED, BLACK FINISH	120	LED	WET LOCATION WALL SCONCE, DECORATIVE
E	PEND	PROVIDED BY OWNER - INSTALLED BY E.C.		120	INCAN	DECORATIVE PENDANT
SF	CLG	DELTA LIGHT	TWEETER ON 2 REO 3033 DIM1	120	LED	CEILING SURFACE MT w/ FAN-RATED J-BOX
DS	REC		BY CONTRACTOR			DOOR SWITCH
OCC	SURF		BY CONTRACTOR			OCCUPANCY SENSOR

LIGHTING FIXTURE SCHEDULE GENERAL NOTES:

1. ALL LIGHTS TO BE PROVIDED WITH DIMMING CAPABILITY AND DIMMER SWITCHES.
2. ALL L.E.D. LAMPS TO BE 3000K, MINIMUM CRI OF 82, UNLESS NOTED OTHERWISE
3. ALL WALL WASH AND SHOWER FIXTURES TO BE PROVIDED w/ LED BI-PIN SOCKET LAMPS BY SORAA MR16 GU10 9W (590 LUMENS) 'BRILLIANT'

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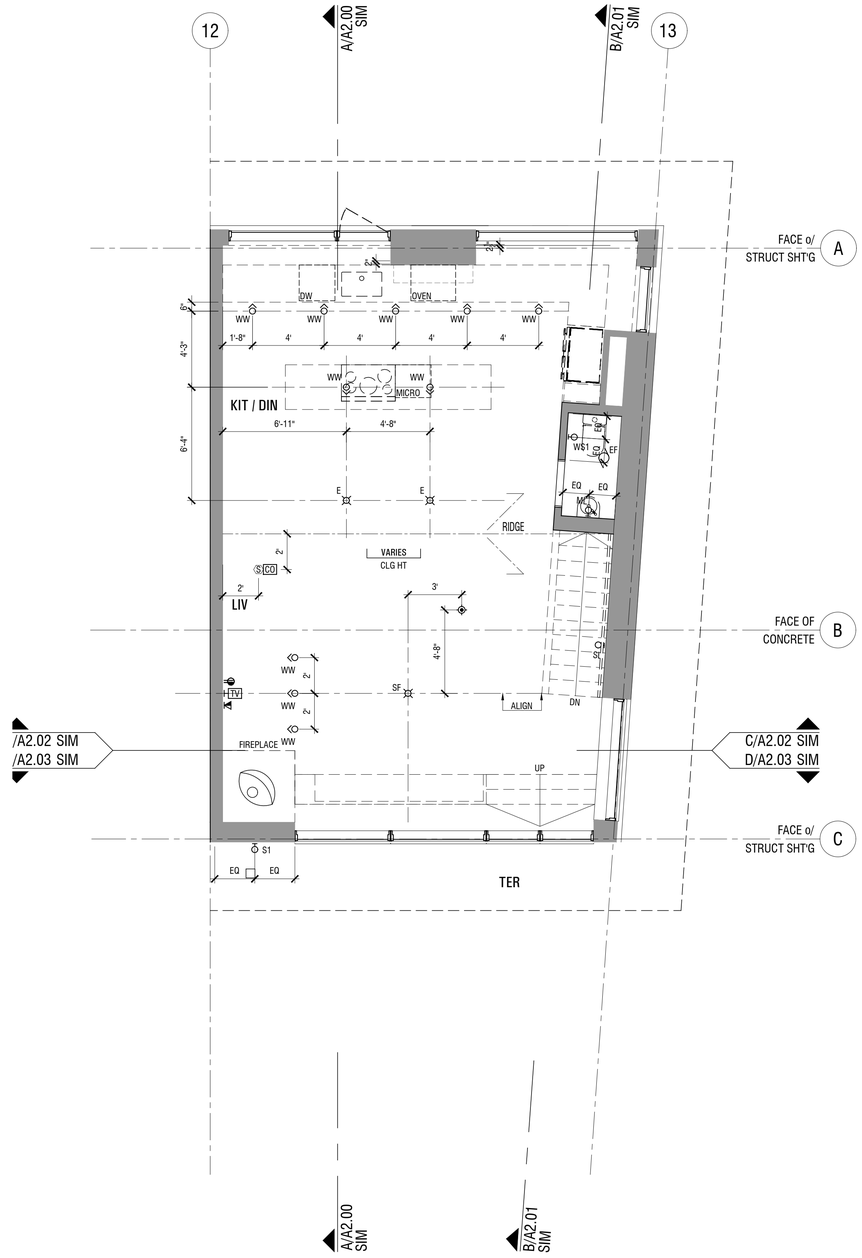
STATE OF UTAH
DANIEL HOFFMAN
No. 7829867-0301
June 1, 2017
LICENSED ARCHITECT

A1.55
LOT 133 ENTRY AND LOWER LEVEL REFLECTED CEILING PLANS
1/4" = 1'-0"
scale

PERMIT SET
phase / rev

2017.06.01
date



1
UPPER LEVEL REFLECTED CEILING PLAN
1/4" = 1'-0"

GENERAL REFLECTED CEILING PLAN NOTES

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LIGHTING FIXTURE SCHEDULE

TAG	MTG.	MFR.	CATALOG No.	VOLT	LAMPS	REMARKS
WW	REC	ACULUX	3-1/4in, IC43N SERIES ADJUSTABLE w/ WHITE FINISH, WET LOCATION, IC RATED, BI-PIN SOCKET BASE	120	LED	ADJ. DOWNLIGHT
WWE	REC	ACULUX	3-1/4in, IC43N SERIES ADJUSTABLE w/ WHITE FINISH, WET LOCATION, IC RATED, BI-PIN SOCKET BASE	120	LED	WET LOCATION ADJ. DOWNLIGHT
SL	REC	BEGA	22 230, WHITE FINISH w/ REMOTE DRIVER	120	LED	STEP LIGHT
ML	WALL	LEUCOS	VITTORIA P2 LED SATIN WHITE/POLISHED CHROME	120	LED	MIRROR LIGHT. WALL SCONCE
SH	REC	ACULUX	3-1/4in, IC43N SERIES w/ WHITE FINISH, WET LOCATION w/ SHOWER TRIM, IC RATED, BI-PIN SOCKET BASE	120	LED	SHOWER TRIM DOWNLIGHT
E#	SURF	AXIS	BOX MINI LED, WHITE FINISH	120	LED	STRIP LIGHT. # = FIXTURE LENGTH, IN FEET
D#	WALL	AXIS	BOX MINI LED, WHITE FINISH	120	LED	STRIP LIGHT. # = FIXTURE LENGTH, IN FEET
WS1	WALL	WAC LTG	WS-W65607, BRONZE FINISH	120	LED	WALL SCONCE w/UP&DN DIST.
WS2	WALL	CERNO	'LIBRI' HARDWIRED, w/ ALUM BACKER PLATE	120	LED	NON-SWITCHED, NON-DIMMING
S1	WALL	WAC LTG	WS-W65607, BRONZE FINISH	120	LED	WET LOCATION WALL SCONCE
S2	WALL	LOUIS POULSEN	AJ 50 WALL LED, BLACK FINISH	120	LED	WET LOCATION WALL SCONCE, DECORATIVE
E	PEND	PROVIDED BY OWNER - INSTALLED BY E.C.		120	INCAN	DECORATIVE PENDANT
SF	CLG	DELTA LIGHT	TWEETER ON 2 REO 3033 DIM1	120	LED	CEILING SURFACE MT w/ FAN-RATED J-BOX
DS	REC		BY CONTRACTOR			DOOR SWITCH
OCC	SURF		BY CONTRACTOR			OCCUPANCY SENSOR

LIGHTING FIXTURE SCHEDULE GENERAL NOTES:

1. ALL LIGHTS TO BE PROVIDED WITH DIMMING CAPABILITY AND DIMMER SWITCHES.
2. ALL L.E.D. LAMPS TO BE 3000K, MINIMUM CRI OF 82, UNLESS NOTED OTHERWISE
3. ALL WALL WASH AND SHOWER FIXTURES TO BE PROVIDED w/ LED BI-PIN SOCKET LAMPS BY SORAA MR16 GU10 9W (590 LUMENS) 'BRILLIANT'

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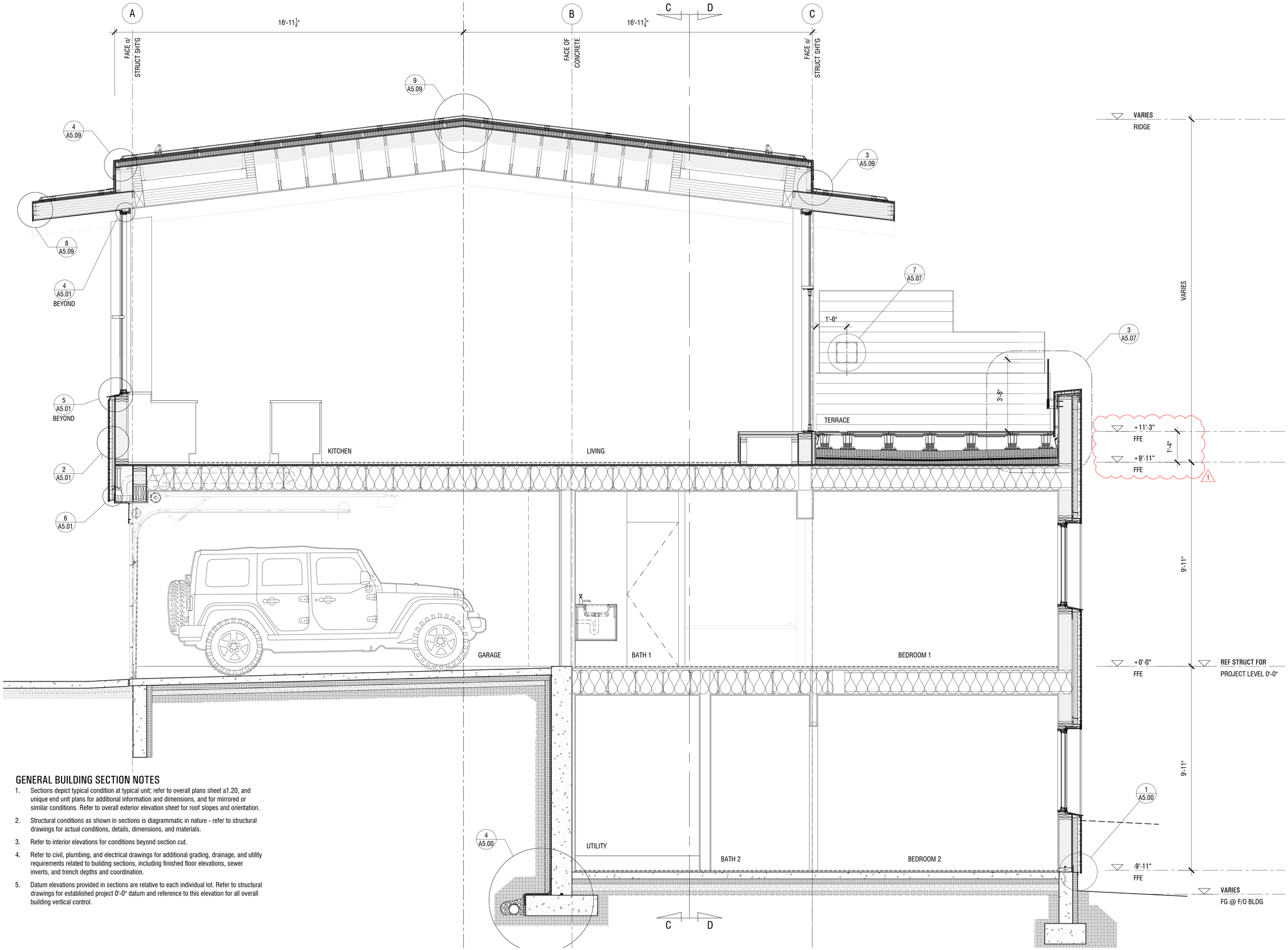
STATE OF UTAH
DANIEL HOFFMAN
No. 7829867-0301
June 1, 2017
LICENSED ARCHITECT

A1.56
LOT 133 UPPER LEVEL REFLECTED CEILING PLAN

1/4" = 1'-0"
scale

PERMIT SET
phase / rev

2017.06.01
date



GENERAL BUILDING SECTION NOTES

1. Sections depict typical condition at typical unit; refer to overall plans sheet a1.20, and unique end unit plans for additional information and dimensions, and for mirrored or similar conditions. Refer to overall exterior elevation sheet for roof slopes and orientation.
2. Structural conditions as shown in sections is diagrammatic in nature - refer to structural drawings for actual conditions, details, dimensions, and materials.
3. Refer to interior elevations for conditions beyond section cut.
4. Refer to civil, plumbing, and electrical drawings for additional grading, drainage, and utility requirements related to building sections, including finished floor elevations, sewer inverts, and trench depths and coordination.
5. Datum elevations provided in sections are relative to each individual lot. Refer to structural drawings for established project 0'-0" datum and reference to this elevation for all overall building vertical control.

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STATE OF UTAH
DANIEL HOFFMAN
No. 7829887-0301
June 26, 2017
LICENSED ARCHITECT

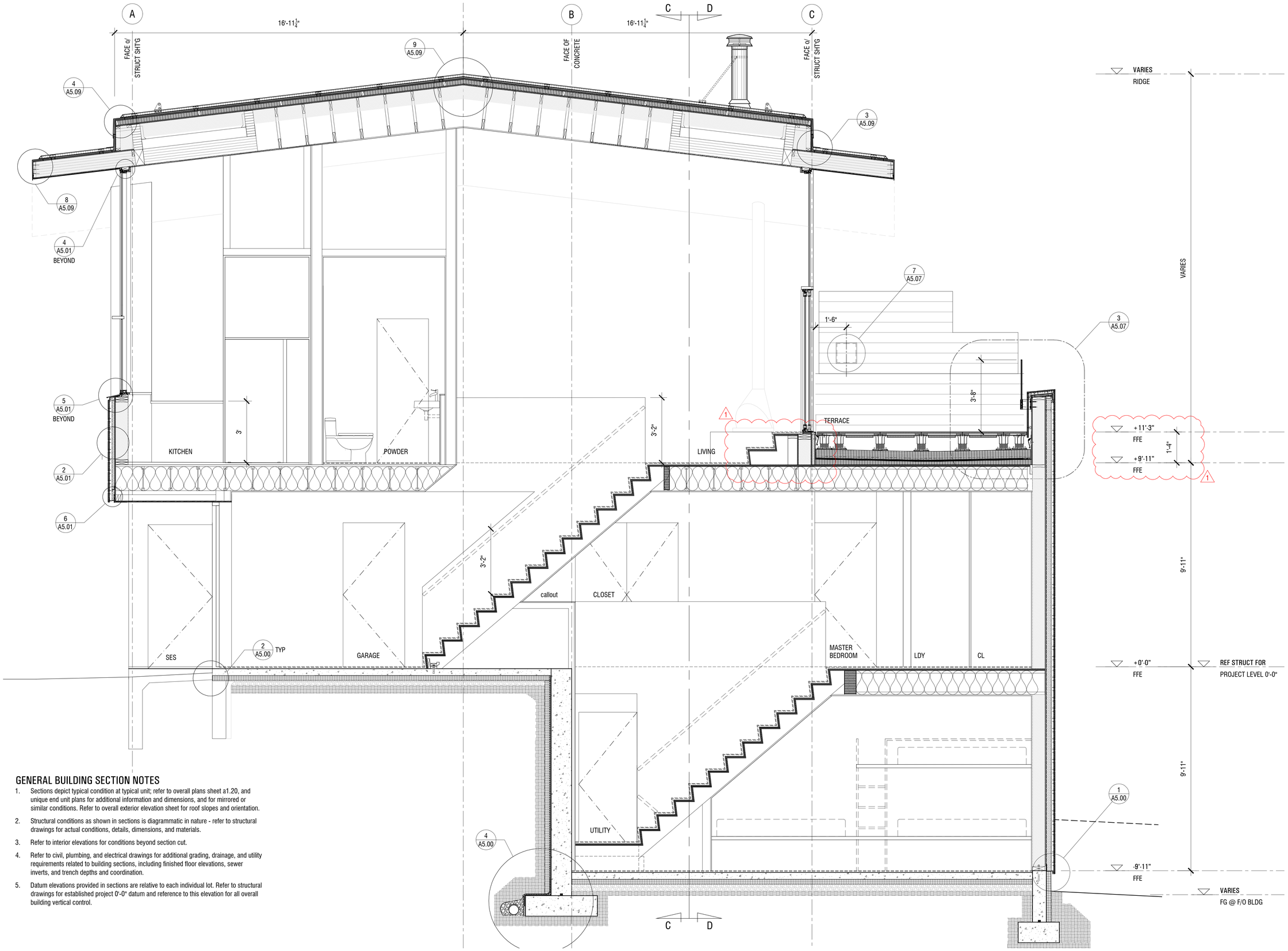
A2.00
TYPICAL UNIT BUILDING SECTION A-A

1/2" = 1'-0"
scale

1

PERMIT SET
phase / rev

2017.06.01
date



GENERAL BUILDING SECTION NOTES

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sma project no.
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LANDSCAPE
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STATE OF UTAH
DANIEL HOFFMAN
No. 7829887-0301
June 26, 2017
LICENSED ARCHITECT

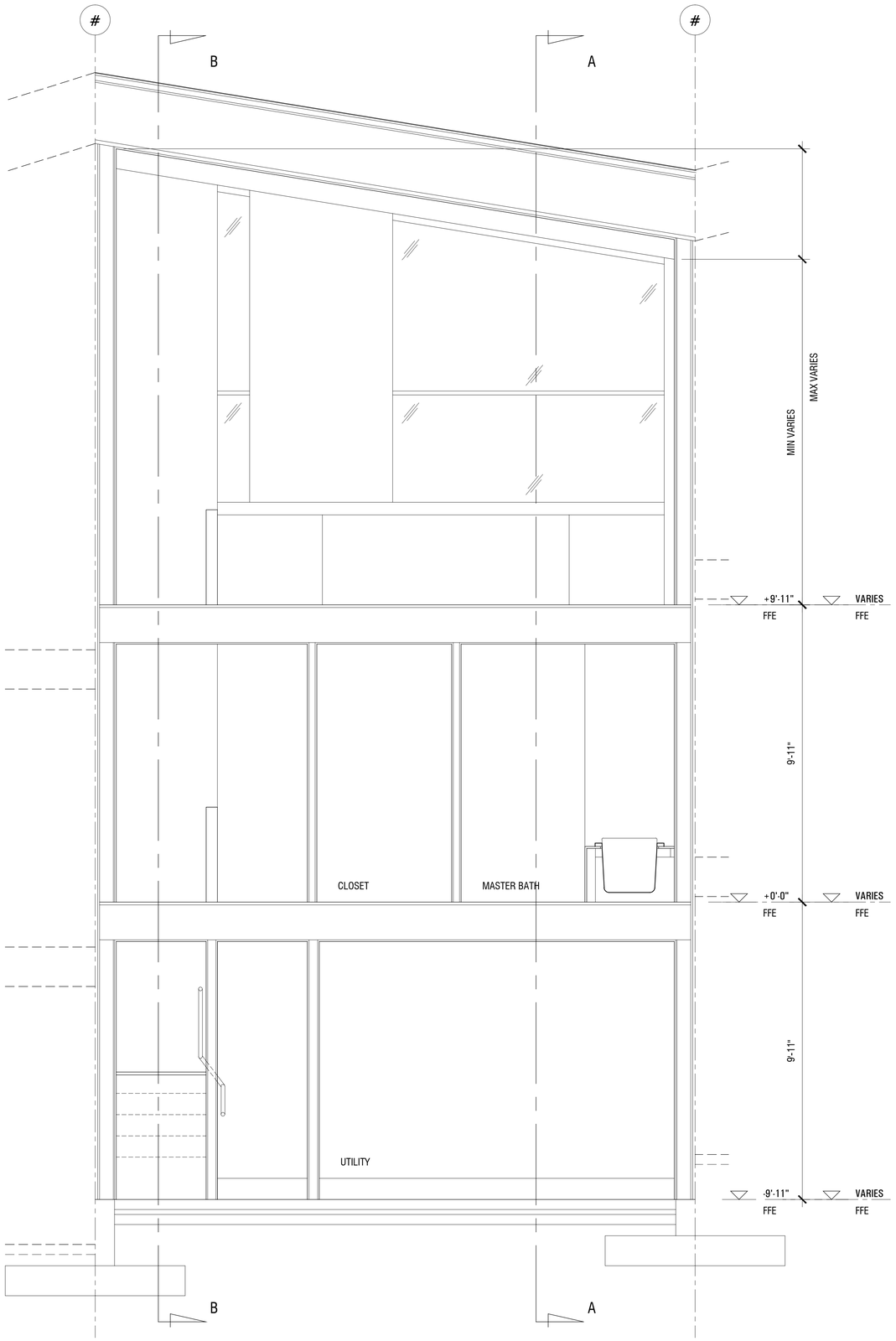
A2.01
TYPICAL UNIT BUILDING SECTION B-B

1/2" = 1'-0"
scale

1

PERMIT SET
phase / rev

2017.06.01
date



GENERAL BUILDING SECTION NOTES

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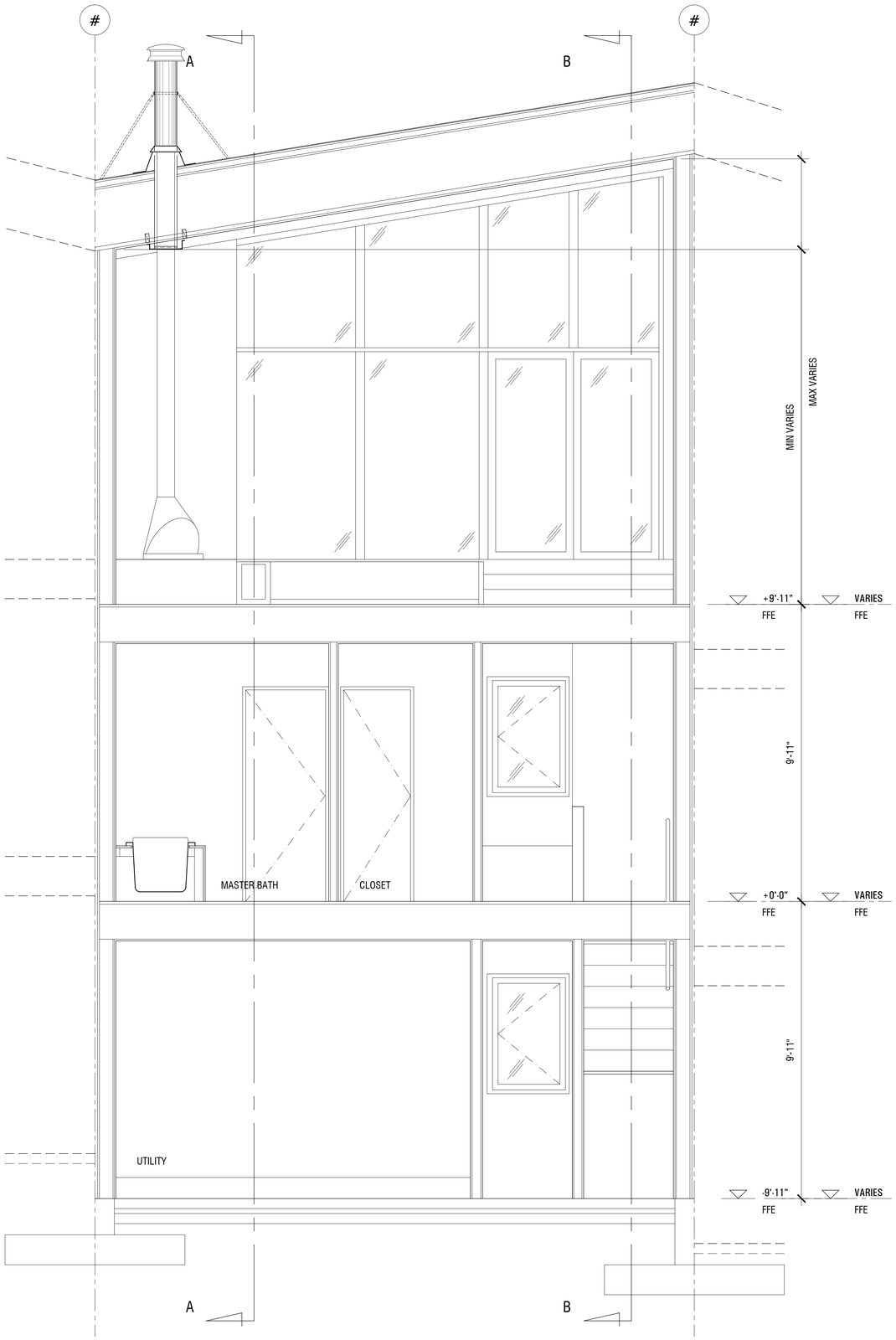
STATE OF UTAH
DANIEL HOFFMAN
No. 7829887-0301
June 1, 2017
LICENSED ARCHITECT

A2.02
TYPICAL UNIT BUILDING SECTION C-C

1/2" = 1'-0"
scale

PERMIT SET
phase / rev

2017.06.01
date



GENERAL BUILDING SECTION NOTES

1. Sections depict typical condition at typical unit; refer to overall plans sheet a1.20, and unique end unit plans for additional information and dimensions, and for mirrored or similar conditions. Refer to overall exterior elevation sheet for roof slopes and orientation.
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5. Datum elevations provided in sections are relative to each individual lot. Refer to structural drawings for established project 0'-0" datum and reference to this elevation for all overall building vertical control.

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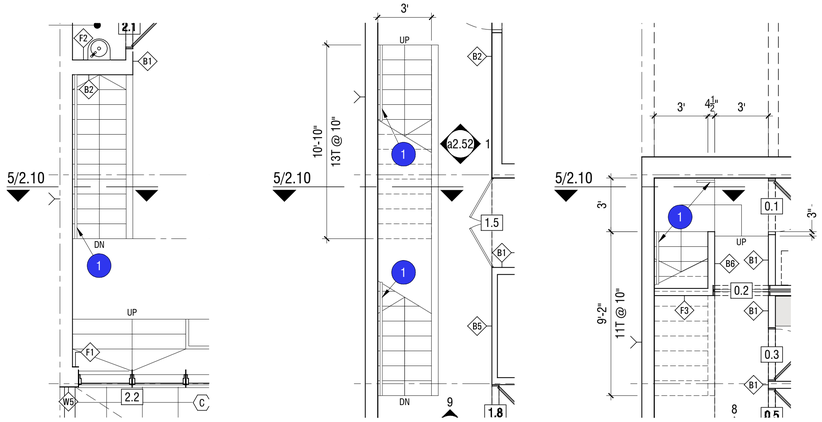
STATE OF UTAH
DANIEL HOFFMAN
No. 7829887-0301
June 1, 2017
LICENSED ARCHITECT

A2.03
TYPICAL UNIT BUILDING SECTION D-D

1/2" = 1'-0"
scale

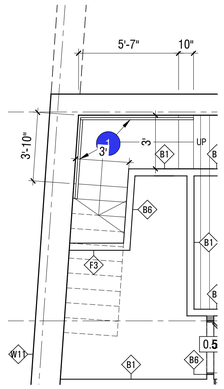
PERMIT SET
phase / rev

2017.06.01
date



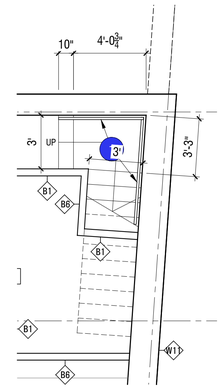
UPPER LEVEL ENTRY LEVEL LOWER LEVEL

3 TYPICAL UNIT - STAIR PLANS 1/4" = 1'-0"



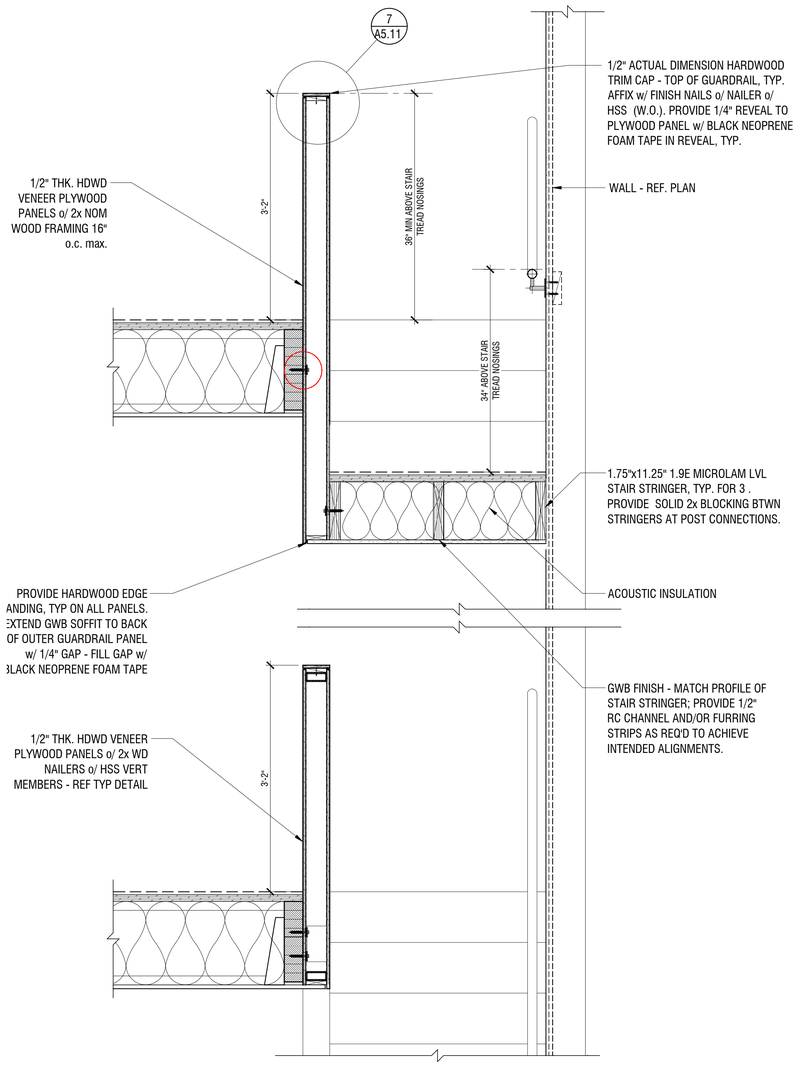
LOWER LEVEL

2 LOT 124 - STAIR PLANS 1/4" = 1'-0"

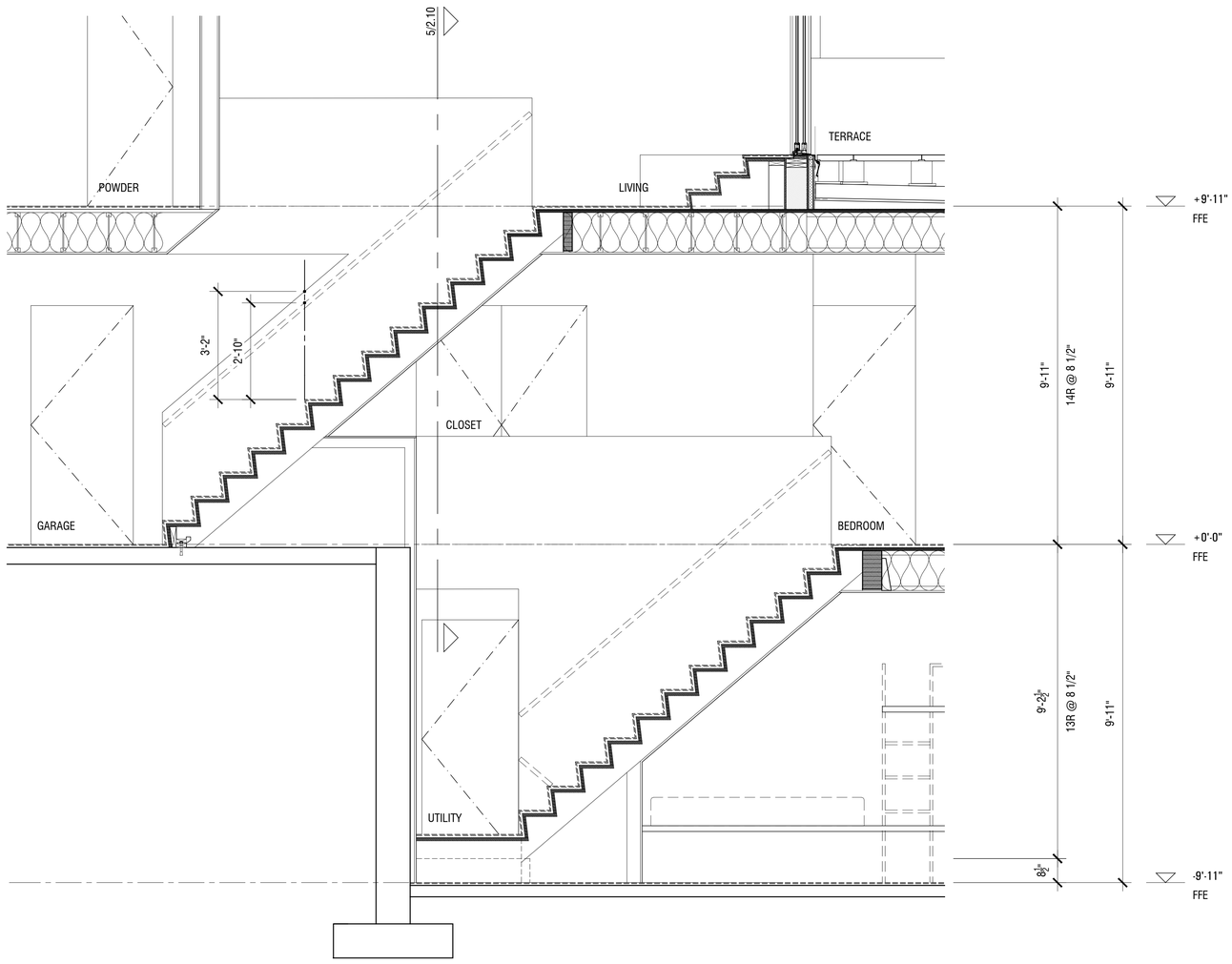


LOWER LEVEL

1 LOT 133 - STAIR PLANS 1/4" = 1'-0"



5 TYPICAL UNIT - STAIR SECTION 1" = 1'-0"



4 TYPICAL STAIR SECTION - LOTS 124 AND 133 SIM. 1/2" = 1'-0"

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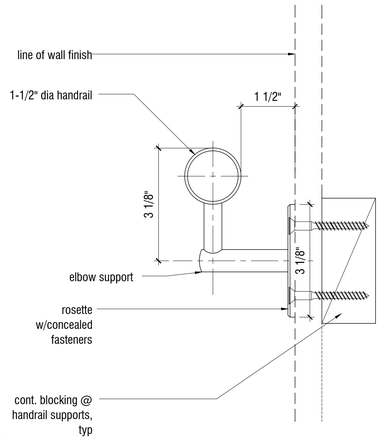
STATE OF UTAH
DARELL HOFFMAN
No. 7829867-0301
June 1, 2017
LICENSED ARCHITECT

A2.10
TYPICAL STAIR PLANS AND SECTIONS

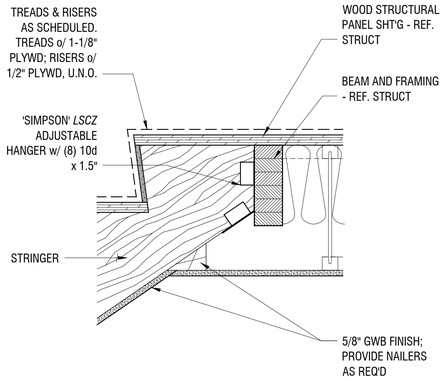
VARIES
scale

PERMIT SET
phase / rev

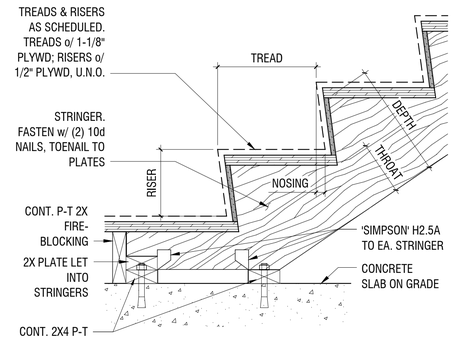
2017.06.01
date



5
HANDRAIL - CROSS SECTION
6"=1'-0"

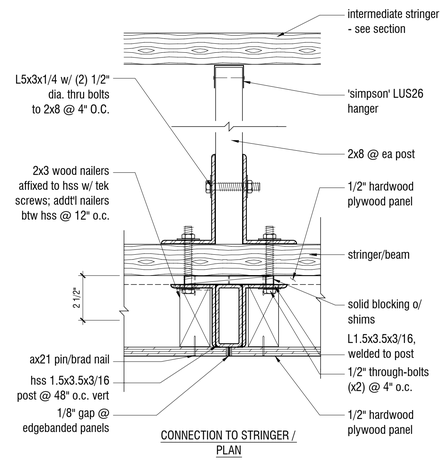


4
STAIR - TOP
1-1/2"=1'-0"



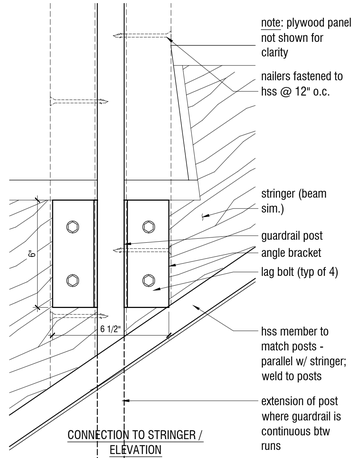
NOTE:
See building section for step dimensions.

3
STAIR - BOTTOM
1-1/2"=1'-0"



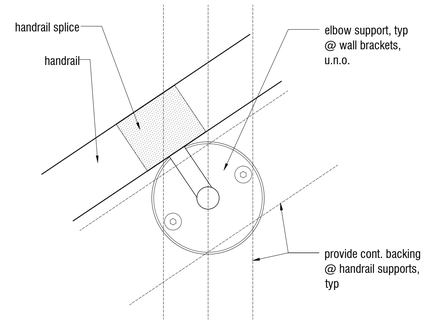
CONNECTION TO STRINGER / PLAN

2
GUARDRAIL POST - PLAN DETAILS
3"=1'-0"

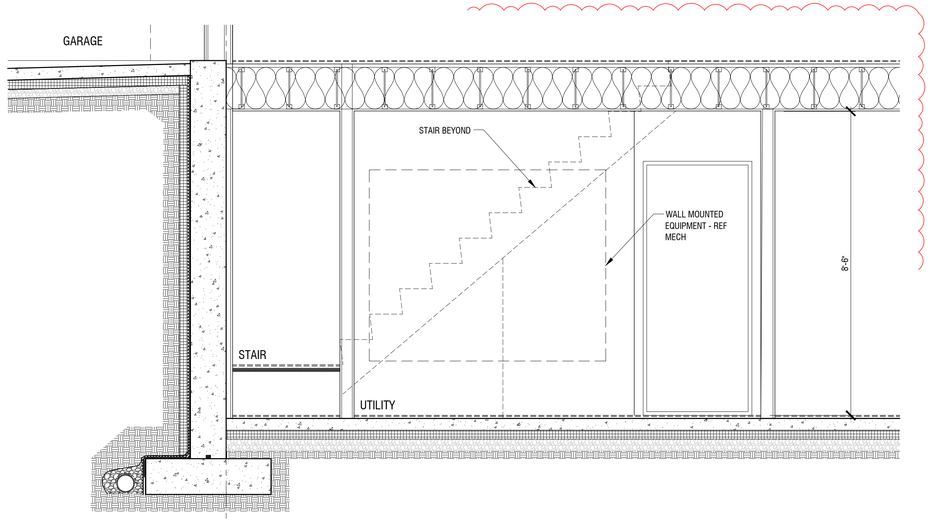


CONNECTION TO STRINGER / ELEVATION

1
GUARDRAIL POST - ELEVATION
3"=1'-0"



6
HANDRAIL - ELEVATION
6"=1'-0"



7
PARTIAL SECTION AT LOT 124 UTILITY ROOM
1/2"=1'-0"

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T 602 251 3800

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STATE OF UTAH
DANIEL HOFFMAN
No. 7829887-0301
June 26, 2017
LICENSED ARCHITECT

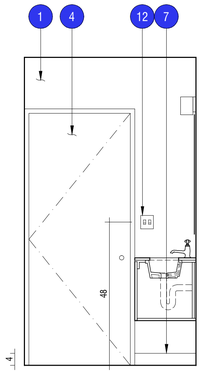
A2.11
TYPICAL STAIR DETAILS

VARIES
scale

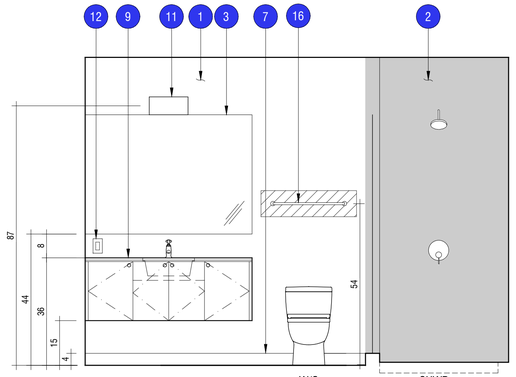
1

PERMIT SET
phase / rev

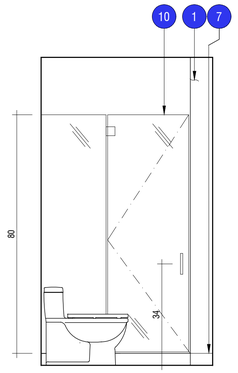
2017.06.01
date



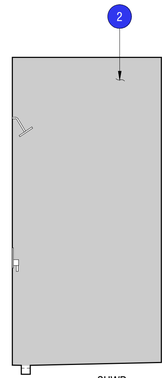
1 BATH 2
1/2" = 1'-0"



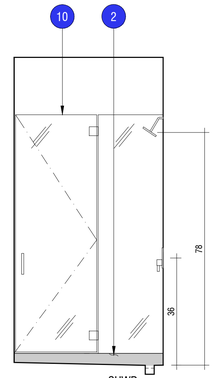
2 BATH 2
1/2" = 1'-0"



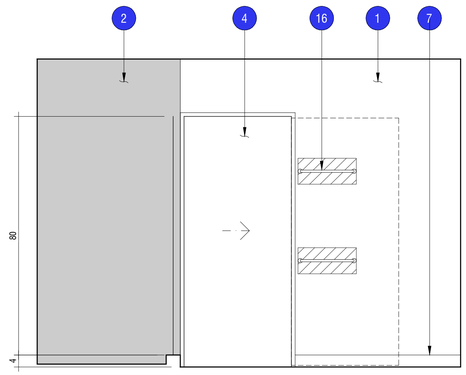
3 BATH 2
1/2" = 1'-0"



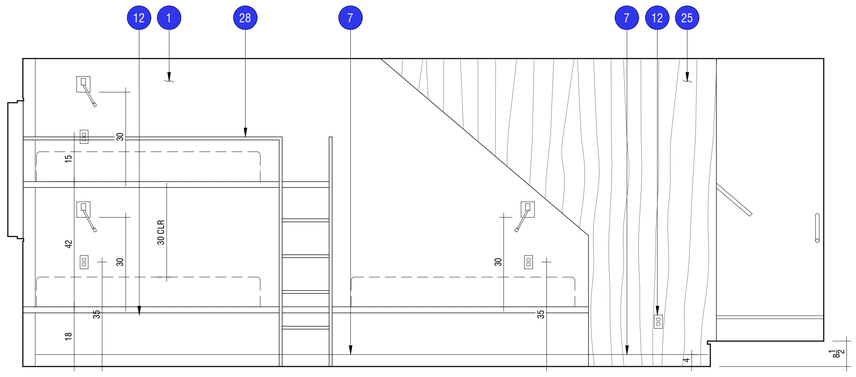
4 BATH 2
1/2" = 1'-0"



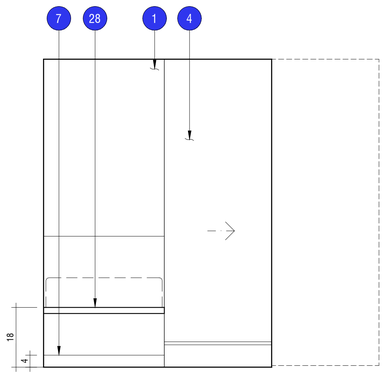
5 BATH 2
1/2" = 1'-0"



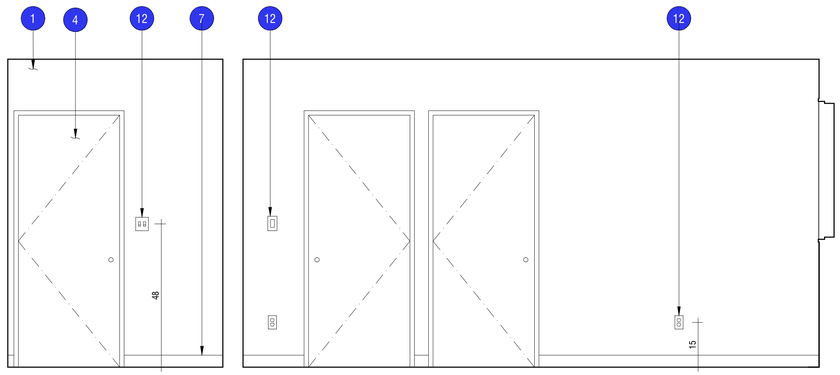
6 BATH 2
1/2" = 1'-0"



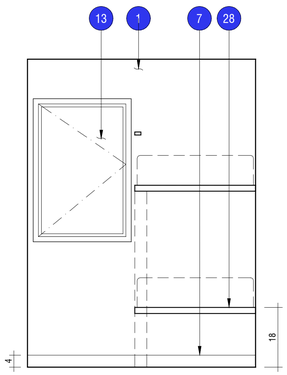
7 LOWER LEVEL CORRIDOR
1/2" = 1'-0"



8 LOWER LEVEL CORRIDOR
1/2" = 1'-0"



9 LOWER LEVEL CORRIDOR
1/2" = 1'-0"



10 LOWER LEVEL CORRIDOR
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6	MEDICINE CABINET	
7	WALL BASE	1/A5.10
8	RECESSED TOE KICK	
9	WALL MOUNT CABINETRY; PROVIDE ADJUSTABLE SHELVES WHERE SHOWN	
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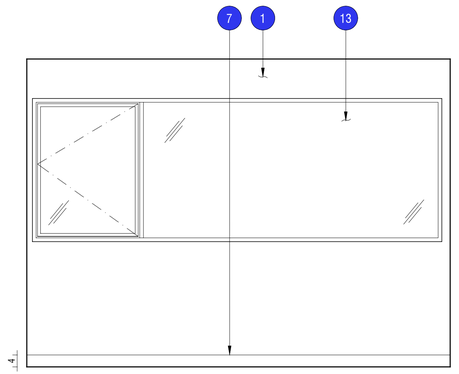
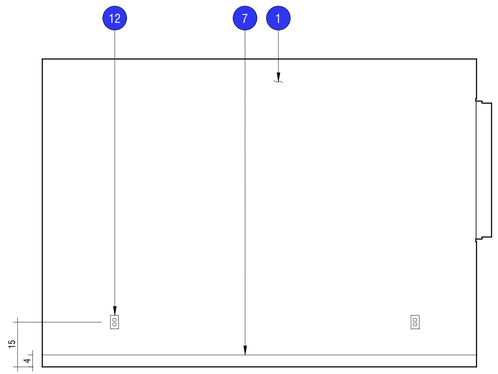
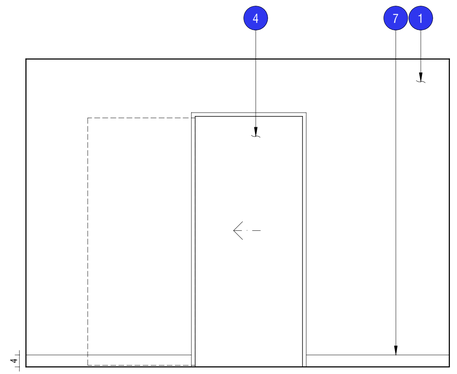


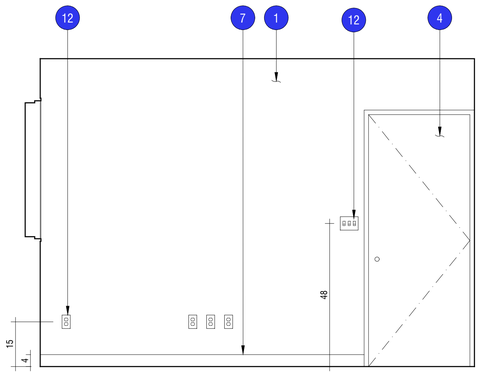
1 BEDROOM 2
1/2" = 1'-0"



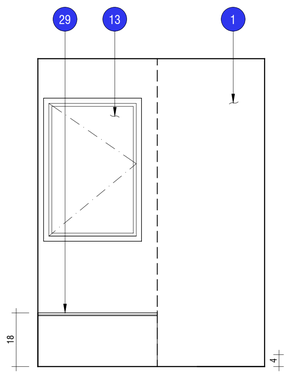
2 BEDROOM 2
1/2" = 1'-0"



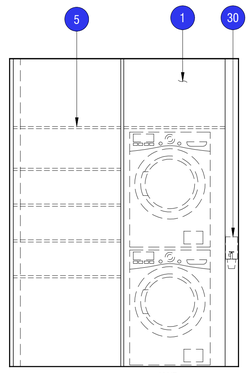
3 BEDROOM 2
1/2" = 1'-0"



4 BEDROOM 2
1/2" = 1'-0"



7 ENTRY LEVEL CORRIDOR
1/2" = 1'-0"



8 ENTRY LEVEL CORRIDOR
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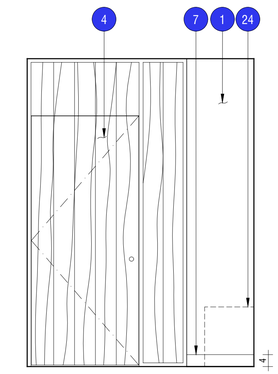
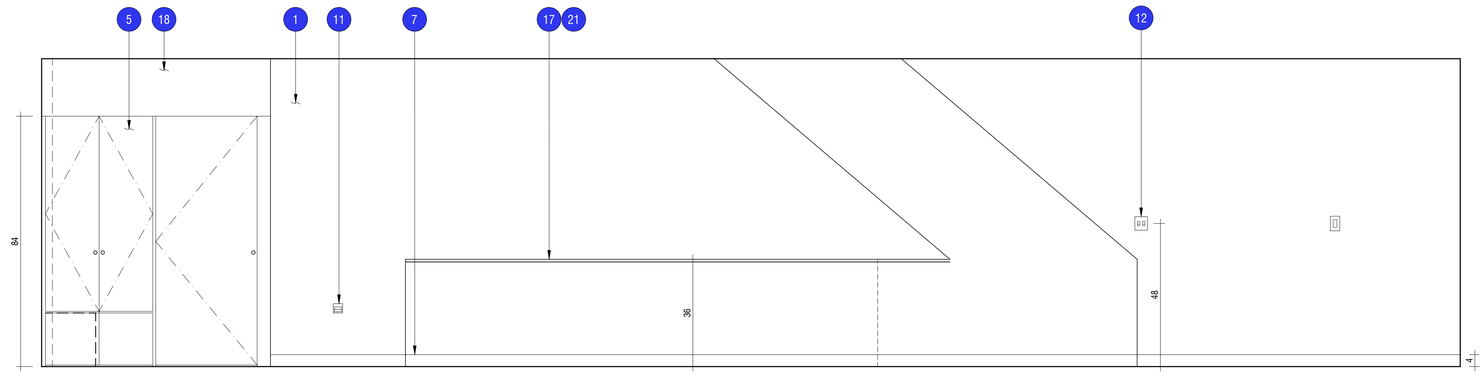


9 ENTRY LEVEL CORRIDOR
1/2" = 1'-0"



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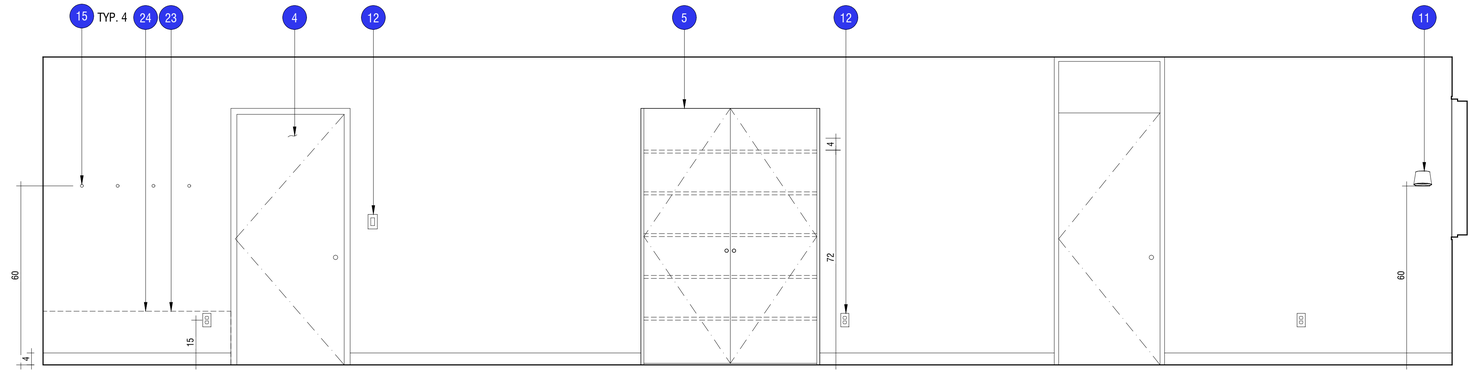

1 ENTRY LEVEL CORRIDOR
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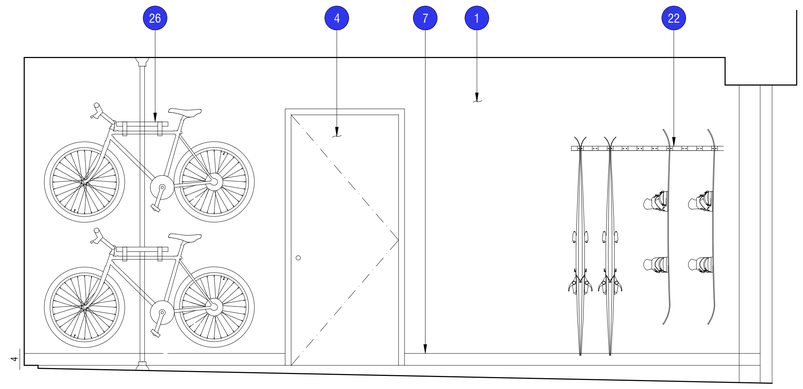
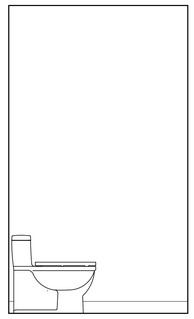
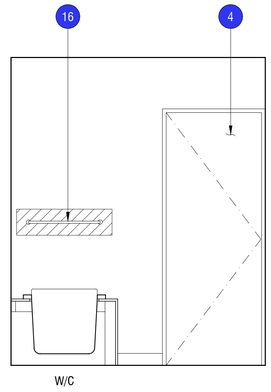


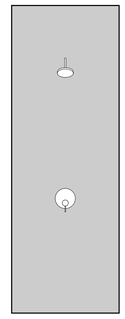
2 GARAGE
1/2" = 1'-0"



3 MASTER BATH
1/2" = 1'-0"



4 MASTER BATH
1/2" = 1'-0"



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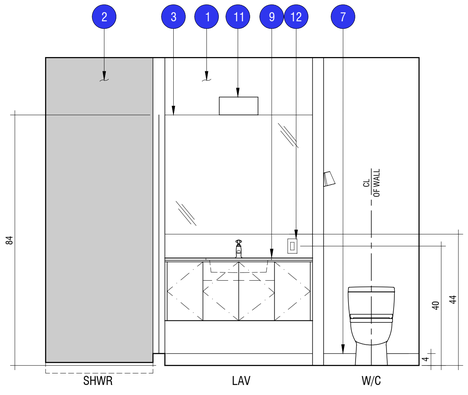

6 MASTER BATH
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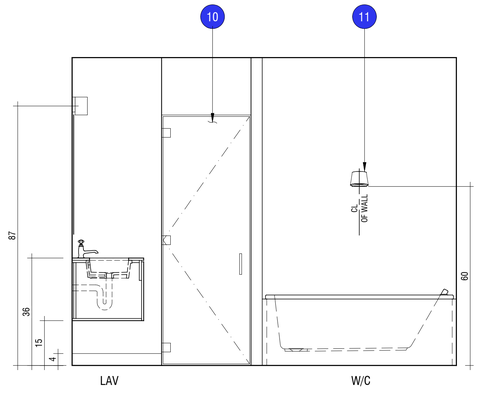

7 MASTER BATH
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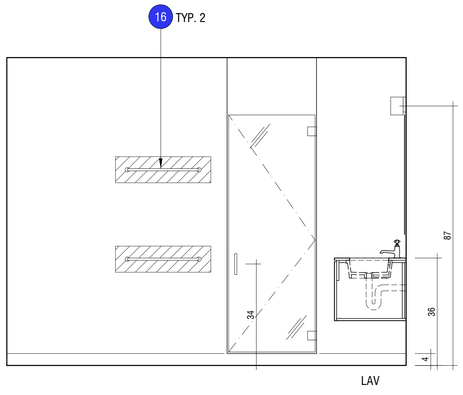

8 MASTER BATH
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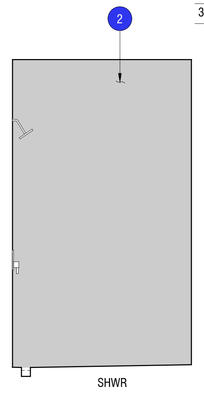

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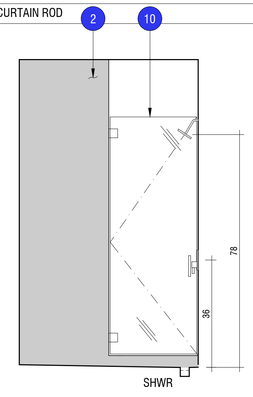

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22	WALL MOUNTED 10-SKI/SNOWBOARD STORAGE RACK, MFR. MONKEY BARS	
23	UPGR.: 1-PAIR WALL MOUNTED LOCKER BOOT & GLOVE DRYER, MFR. DRYX., COORDINATE WITH ELEC. FOR ADDITIONAL CONVENIENCE OUTLET LOCATIONS. PROVIDE VENTILATION AT BASE.	
24	FURNITURE, BY OWNER	
25	WOOD WALL PANEL'G	
26	UPGR.: BIKE STAND, DUAL-TOUCH #TW004, MFR. TOPEAK	
27	WALL-MOUNTED TRACK w/ HOOKS AND GARAGE CABINETS, BY OWNER	
28	UPGR.: BUILT-IN BUNK BEDS, ACCESS LADDER AND LIGHT WHERE SHOWN; CLEAR SEALED.	
29	BUILT-IN BENCH W/ CUSHION	
30	WASHER/DRYER BOX	
31	TOWEL RING	
32	SHOWER CURTAIN ROD	

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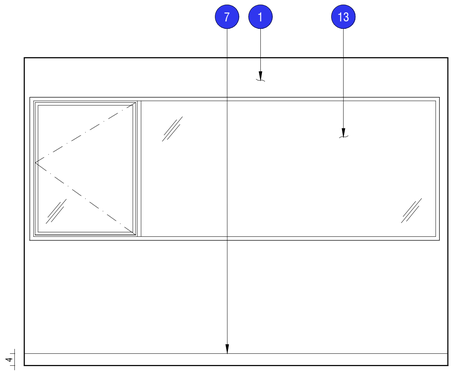
STATE OF UTAH
DANIEL HOFFMAN
No. 7829867-0301
June 1, 2017
LICENSED ARCHITECT

A2.52
INTERIOR ELEVATIONS

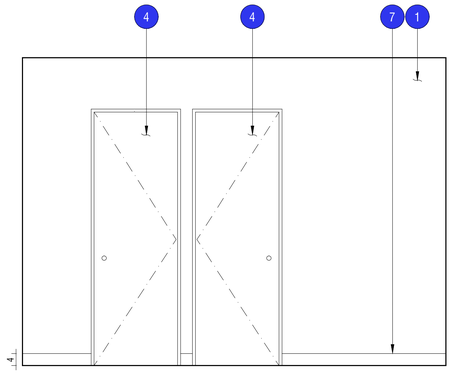
############
scale

PERMIT SET
phase / rev

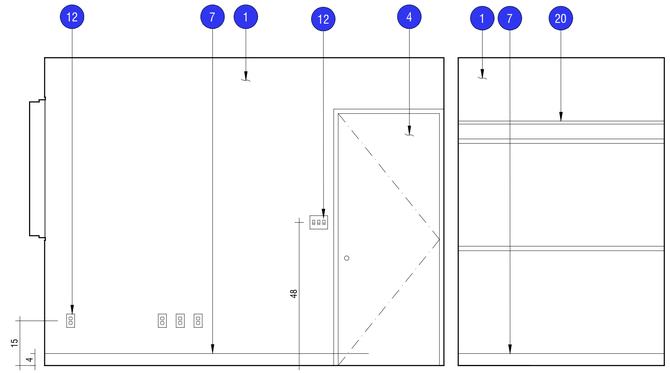
2017.06.01
date



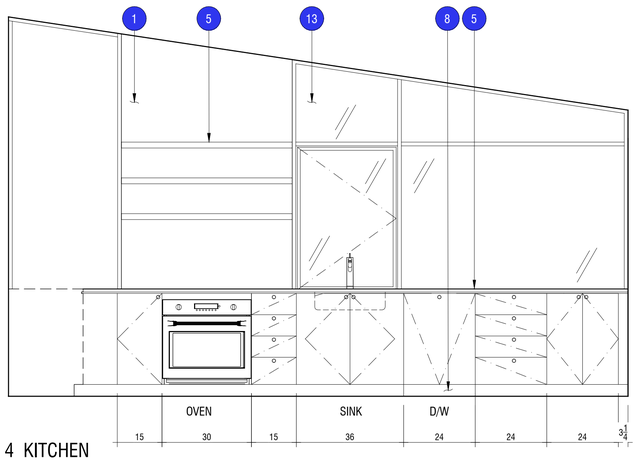
1 MASTER BEDROOM
1/2" = 1'-0"



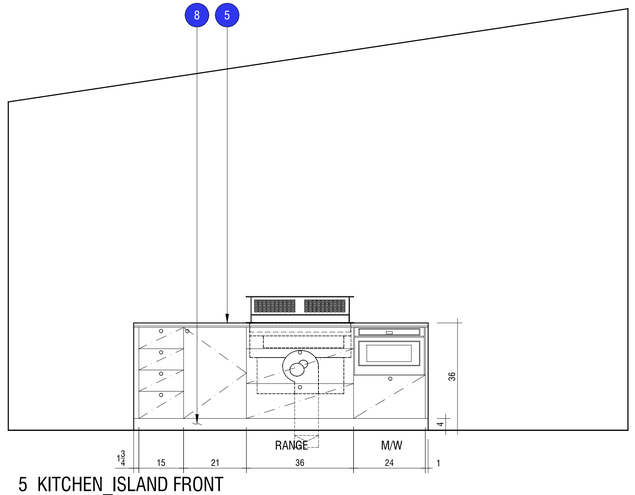
2 MASTER BEDROOM
1/2" = 1'-0"



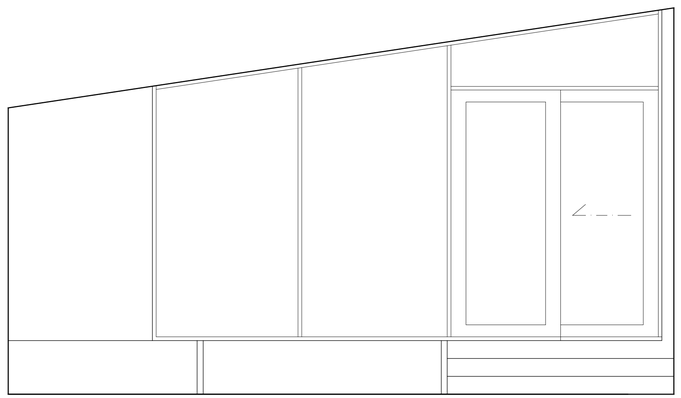
3 MASTER BEDROOM
1/2" = 1'-0"



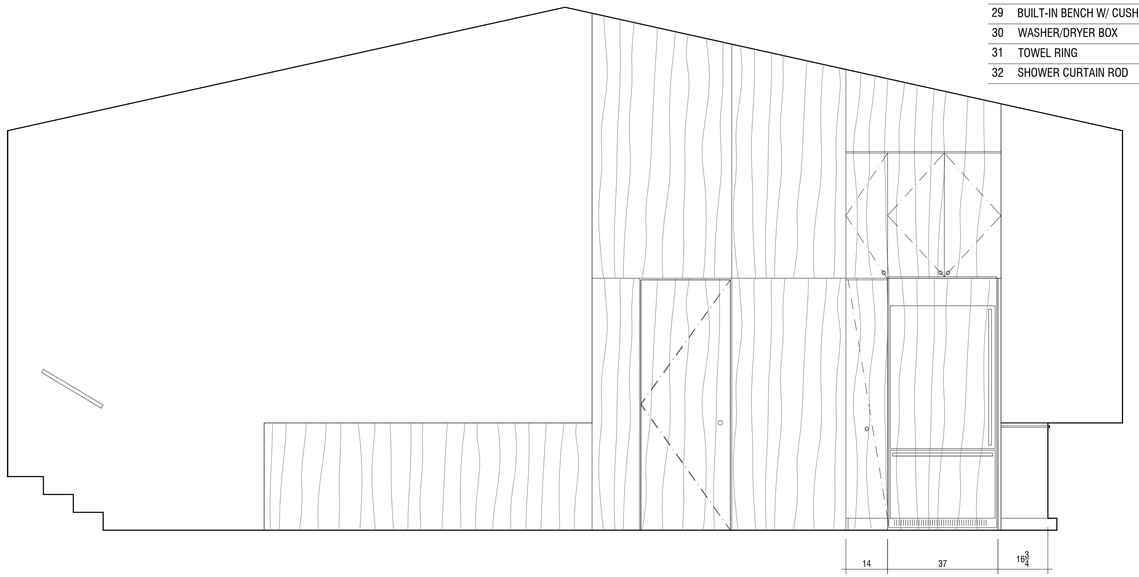
4 KITCHEN
1/2" = 1'-0"



5 KITCHEN_ISLAND FRONT
1/2" = 1'-0"



6 LIVING_ROOM
1/2" = 1'-0"



7 LIVING ROOM
1/2" = 1'-0"

GENERAL INTERIOR ELEVATION NOTES

Interior elevations are drawn for typical unit - refer to site plan for mirrored unit conditions and mirror interior elevations accordingly

1. Dimensions are to centerlines of fixtures/equipment/accessories, and to face of finish, typ u.n.o.
2. Provide solid wood backing at all fixtures/equipment/accessories locations, typ.
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4. All backing locations to be reviewed by architect and approved by owner's representative prior to installing sheathing/finishes.

KEYNOTES

"UPGR." designation on keynote tags refers to owner upgrades, refer to specifications for additional information.

#	DESCRIPTION	REF. DTL/SHT
1	PAINTED GWB W/ LEVEL 4 FINISH	
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4	DOOR	REF. PLAN
5	MILLWORK/CABINETRY, PROVIDE ADJUSTABLE SHELVES WHERE SHOWN	
6	MEDICINE CABINET	
7	WALL BASE	1/A5.10
8	RECESSED TOE KICK	
9	WALL MOUNT CABINETRY; PROVIDE ADJUSTABLE SHELVES WHERE SHOWN	
10	GLASS SHOWER ENCLOSURE	
11	LIGHT FIXTURE	REF RCP
12	ELECTRICAL RECEPTACLE/OUTLET	REF. ELEC
13	WINDOW	REF. PLAN
14	SHOWER SLOT DRAIN	
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STATE OF UTAH
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No. 7829887-0301
June 1, 2017
LICENSED ARCHITECT

A2.53
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1/2" = 1'-0"
scale

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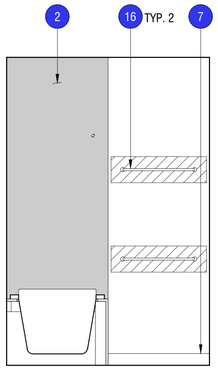
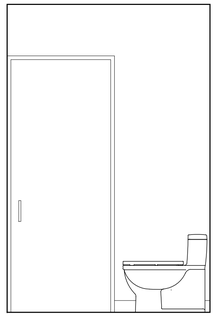


1 M BEDROOM_EXTR WALL
1/2" = 1'-0"



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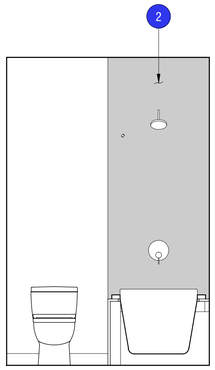
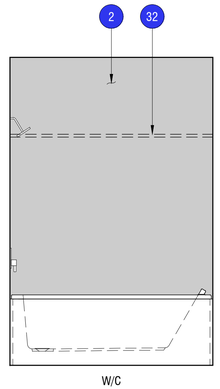
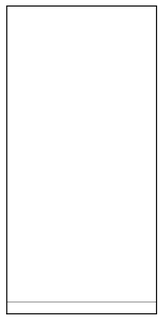
1/2" = 1'-0"



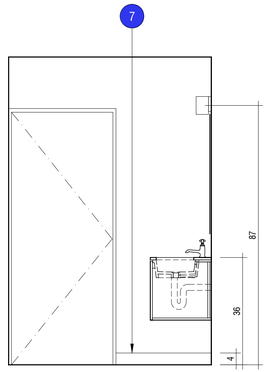
3 M BEDROOM_EXTR WALL
1/2" = 1'-0"



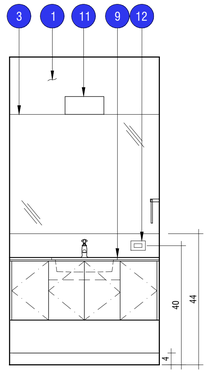
4 M BEDROOM_EXTR WALL
1/2" = 1'-0"



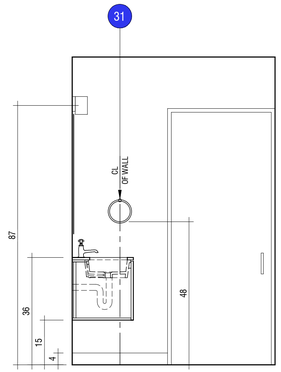
5 M BEDROOM_EXTR WALL
1/2" = 1'-0"



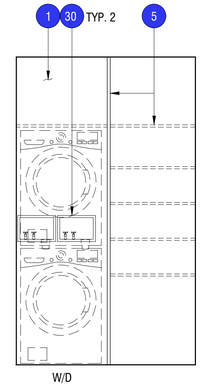
6 M BEDROOM_EXTR WALL
1/2" = 1'-0"



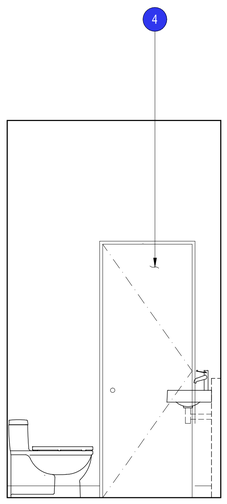
7 M BEDROOM_EXTR WALL
1/2" = 1'-0"



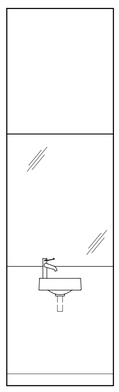
8 M BEDROOM_EXTR WALL
1/2" = 1'-0"



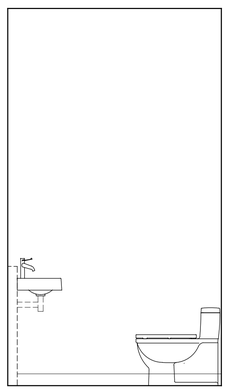
9 M BEDROOM_EXTR WALL
1/2" = 1'-0"



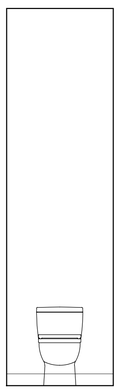
10 POWDER ROOM
1/2" = 1'-0"



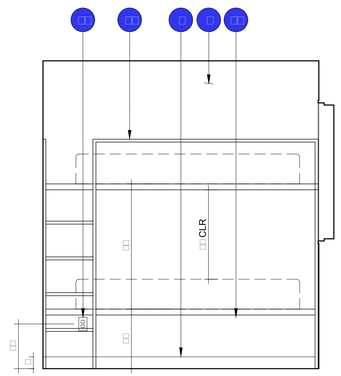
11 POWDER ROOM
1/2" = 1'-0"



12 POWDER ROOM
1/2" = 1'-0"



13 POWDER ROOM
1/2" = 1'-0"



11 BUNK
1/2" = 1'-0"

GENERAL INTERIOR ELEVATION NOTES

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2. Provide solid wood backing at all fixtures/equipment/accessories locations, typ.
3. Contractor to field verify all openings and correct any deviations from specified framing tolerances prior to proceeding.
4. All backing locations to be reviewed by architect and approved by owner's representative prior to installing sheathing/finishes.

KEYNOTES

"UPGR." designation on keynote tags refers to owner upgrades, refer to specifications for additional information.

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1	PAINTED GWB W/ LEVEL 4 FINISH	
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4	DOOR	REF. PLAN
5	MILLWORK/CABINETRY, PROVIDE ADJUSTABLE SHELVES WHERE SHOWN	
6	MEDICINE CABINET	
7	WALL BASE	1/A5.10
8	RECESSED TOE KICK	
9	WALL MOUNT CABINETRY; PROVIDE ADJUSTABLE SHELVES WHERE SHOWN	
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12	ELECTRICAL RECEPTACLE/OUTLET	REF. ELEC
13	WINDOW	REF. PLAN
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17	GUARDRAIL	
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A2.54
INTERIOR ELEVATIONS

1/2" = 1'-0"
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PERMIT SET
phase / rev

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date

EXTERIOR ELEVATION KEYNOTES

#	DESCRIPTION	REF. DTL/SHT
1	LIGHT FIXTURE - REF RCP	
2	DOOR - REF PLAN	
3	WINDOW - REF PLAN	
4	DEFS SOFFIT, PAINTED	8/A5.09
5	FUTURE SITE STAIR	
6	FUTURE ROOF & BUILDING	
7	GLASS GUARDRAIL	2/A5.07
8	CUSTOM METAL FABRICATION FPR COMBINATION DRYER EXHAUST/BATHROOM EXHAUST TERMINATION	
9	CAST IN PLACE CONCRETE: REF SPEC FOR FINISH	

MATERIALS LEGEND

GENERAL NOTE: Refer to specifications sheet a0.20 - a0.21 for additional material information and installation requirements.

STANDING SEAM METAL ROOFING

HORIZONTAL WOOD SIDING

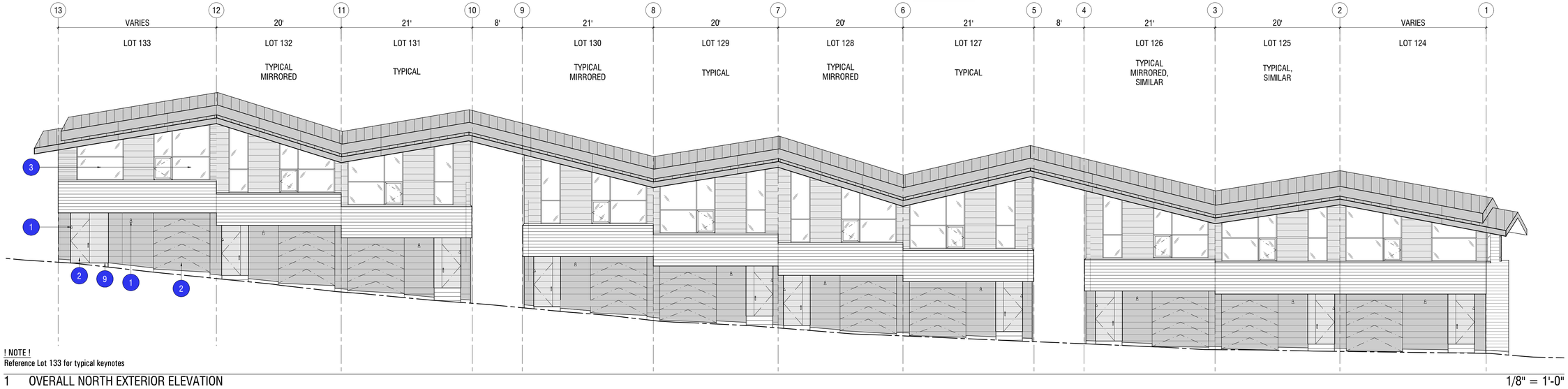
VERTICAL WOOD SIDING

GLASS

HORIZONTAL METAL WALL PANELS

GENERAL EXTERIOR ELEVATION NOTES

1. Refer to 'general sheets' for general notes, symbols, legends, and abbreviations
2. Dimensions are to centerlines of fixtures/equipment/accessories, and to face of finish, typ u.n.o.
3. Refer to building plans for window and door locations. Refer to sheets A6.10-A6.11 for window and door schedule and elevations.
4. Contractor to field verify all openings and correct any deviations from specified framing tolerances prior to proceeding.
5. Refer to roof plan for location of snow guards, roof details, pipe penetrations, and other roof accessories.
6. Refer to wall sections and wall assembly details for additional wall construction information.
7. Typical throughout - Ensure materials transitions and joints are aligned as indicated, and planned to avoid awkward conditions; i.e. adjust window/door layouts to avoid cutting/notching wood cladding; locate seams, joints, and fasteners to be even, aligned, and centered, u.n.o.



! NOTE !
Reference Lot 133 for typical keynotes

1 OVERALL NORTH EXTERIOR ELEVATION 1/8" = 1'-0"

! NOTE !
Reference Lot 124 for typical keynotes

2 OVERALL SOUTH EXTERIOR ELEVATION 1/8" = 1'-0"

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A3.10
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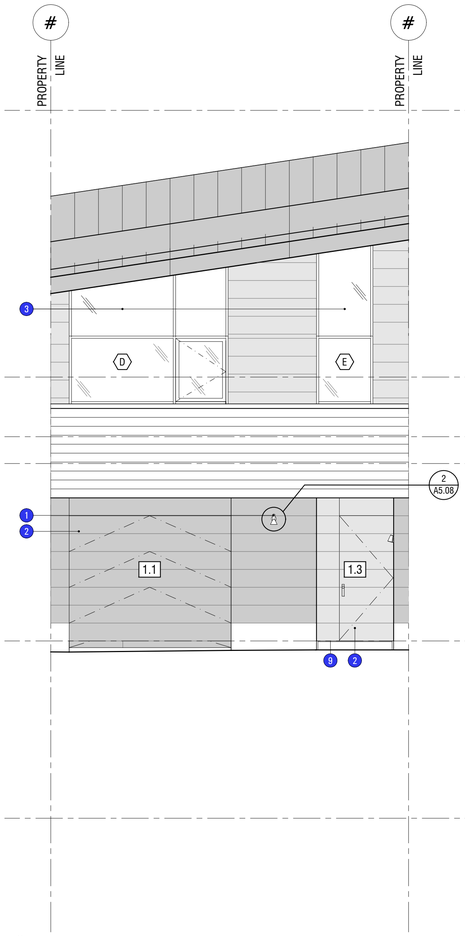
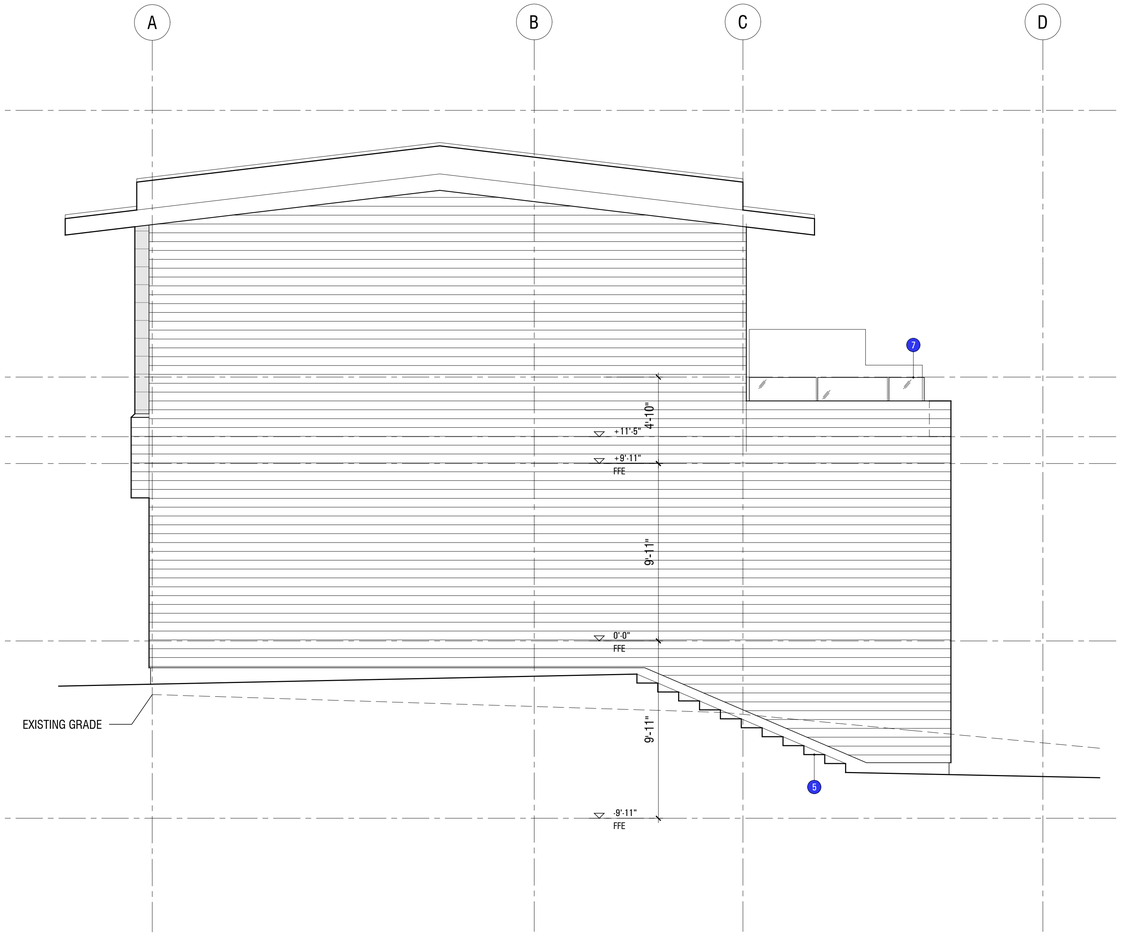
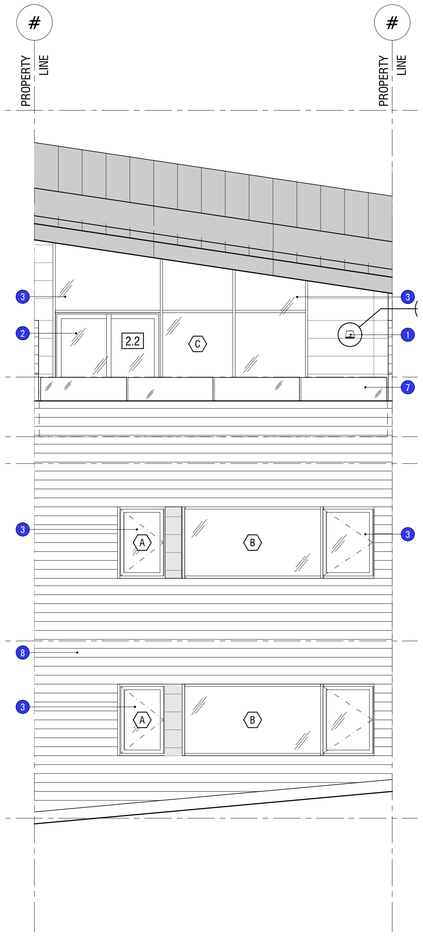


! NOTE !
Typical, non-mirrored, unit is shown. Mirrored typical units have opposite configuration, with opposite hinged/sliding setup. Refer to site plan for mirrored/non-mirrored layout.

1 TYPICAL UNIT - NORTH ELEVATION 1/4" = 1'-0"



2 TYPICAL UNIT - WEST ELEVATION 1/4" = 1'-0"



! NOTE !
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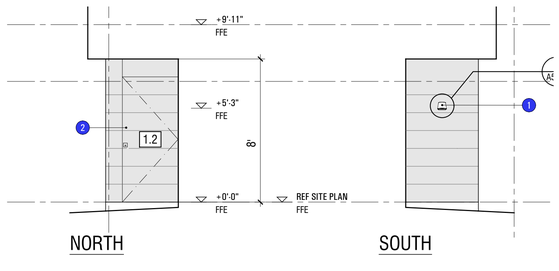
3 TYPICAL UNIT - SOUTH ELEVATION 1/4" = 1'-0"



! NOTE !
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4 TYPICAL UNIT - HIDDEN ELEVATIONS @ ENTRY 1/4" = 1'-0"

MATERIALS LEGEND

GENERAL NOTE: Refer to specifications sheet a0.20 - a0.21 for additional material information and installation requirements.

- STANDING SEAM METAL ROOFING
- HORIZONTAL WOOD SIDING
- VERTICAL WOOD SIDING
- GLASS
- HORIZONTAL METAL WALL PANELS

GENERAL EXTERIOR ELEVATION NOTES

1. Refer to 'general sheets' for general notes, symbols, legends, and abbreviations
2. Dimensions are to centerlines of fixtures/equipment/accessories, and to face of finish, typ u.n.o.
3. Refer to building plans for window and door locations. Refer to sheets A6.10-A6.11 for window and door schedule and elevations.
4. Contractor to field verify all openings and correct any deviations from specified framing tolerances prior to proceeding.
5. Refer to roof plan for location of snow guards, roof details, pipe penetrations, and other roof accessories.
6. Refer to wall sections and wall assembly details for additional wall construction information.
7. Typical throughout - Ensure materials transitions and joints are aligned as indicated, and planned to avoid awkward conditions; i.e. adjust window/door layouts to avoid cutting/notching wood cladding; locate seams, joints, and fasteners to be even, aligned, and centered, u.n.o.

EXTERIOR ELEVATION KEYNOTES

#	DESCRIPTION	REF. DTL/SHT
1	LIGHT FIXTURE - REF RCP	
2	DOOR - REF PLAN	
3	WINDOW - REF PLAN	
4	DEFS SOFFIT, PAINTED	8/A5.09
5	FUTURE SITE STAIR	
6	FUTURE ROOF & BUILDING	
7	GLASS GUARDRAIL	2/A5.07
8	CUSTOM METAL FABRICATION FPR COMBINATION DRYER EXHAUST/BATHROOM EXHAUST TERMINATION	
9	CAST IN PLACE CONCRETE: REF SPEC FOR FINISH	

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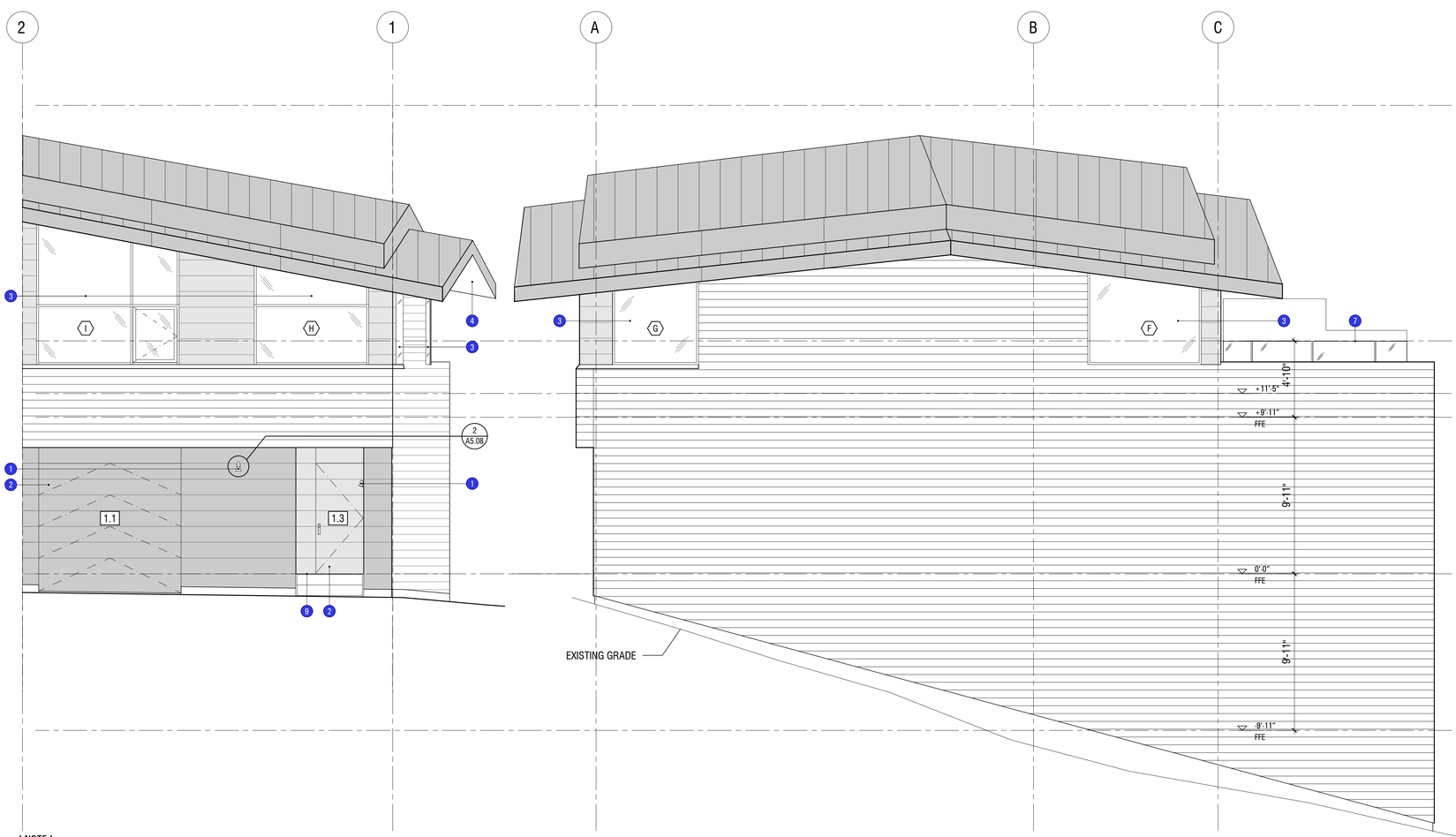
STATE OF UTAH
DANIEL HOFFMAN
No. 7829867-0301
June 1, 2017
REGISTERED ARCHITECT

A3.11
TYPICAL UNIT EXTERIOR ELEVATIONS

1/4" = 1'-0"
scale

PERMIT SET
phase / rev

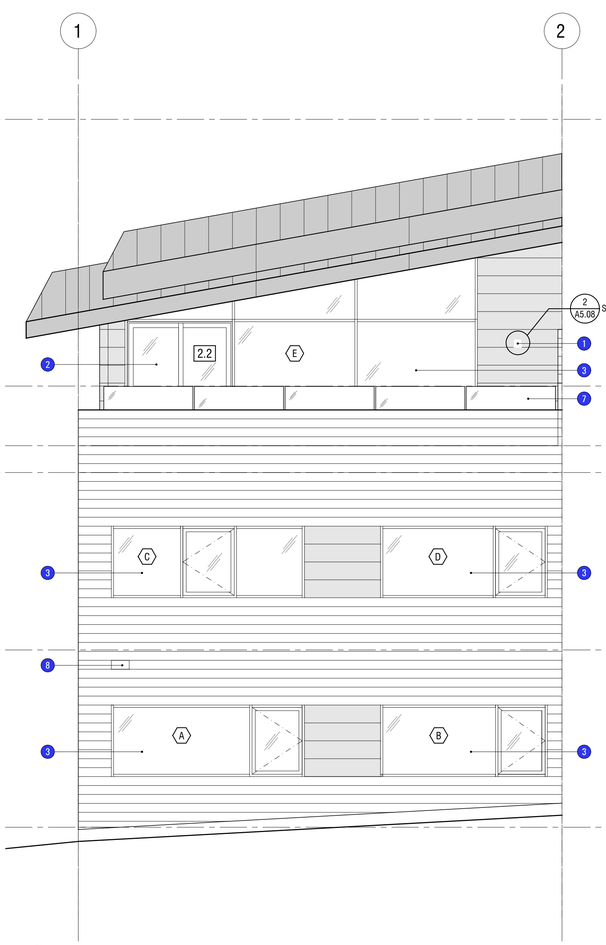
2017.06.01
date



! NOTE !
Typical, non-mirrored, unit is shown. Mirrored typical units have opposite configuration, with opposite hinged/sliding setup. Refer to site plan for mirrored/non-mirrored layout.

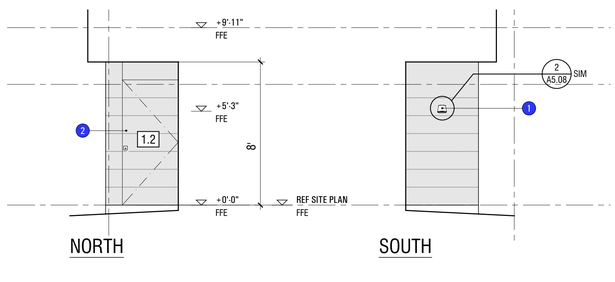
1 LOT 124 - NORTH ELEVATION 1/4" = 1'-0"

2 LOT 124 - WEST ELEVATION 1/4" = 1'-0"



! NOTE !
Typical, non-mirrored, unit is shown. Mirrored typical units have opposite configuration, with opposite hinged/sliding setup. Refer to site plan for mirrored/non-mirrored layout.

3 LOT 124 - EAST ELEVATION 1/4" = 1'-0"



! NOTE !
Typical, non-mirrored, unit is shown. Mirrored typical units have opposite configuration, with opposite hinged/sliding setup. Refer to site plan for mirrored/non-mirrored layout.

4 LOT 124 - HIDDEN ELEVATIONS @ ENTRY 1/4" = 1'-0"

MATERIALS LEGEND

GENERAL NOTE: Refer to specifications sheet a0.20 - a0.21 for additional material information and installation requirements.

- STANDING SEAM METAL ROOFING
- HORIZONTAL WOOD SIDING
- VERTICAL WOOD SIDING
- GLASS
- HORIZONTAL METAL WALL PANELS

GENERAL EXTERIOR ELEVATION NOTES

1. Refer to 'general sheets' for general notes, symbols, legends, and abbreviations
2. Dimensions are to centerlines of fixtures/equipment/accessories, and to face of finish, typ u.n.o.
3. Refer to building plans for window and door locations. Refer to sheets A6.10-A6.11 for window and door schedule and elevations.
4. Contractor to field verify all openings and correct any deviations from specified framing tolerances prior to proceeding.
5. Refer to roof plan for location of snow guards, roof details, pipe penetrations, and other roof accessories.
6. Refer to wall sections and wall assembly details for additional wall construction information.
7. Typical throughout - Ensure materials transitions and joints are aligned as indicated, and planned to avoid awkward conditions; i.e. adjust window/door layouts to avoid cutting/notching wood cladding; locate seams, joints, and fasteners to be even, aligned, and centered, u.n.o.

EXTERIOR ELEVATION KEYNOTES

#	DESCRIPTION	REF. DTL/SHT
1	LIGHT FIXTURE - REF RCP	
2	DOOR - REF PLAN	
3	WINDOW - REF PLAN	
4	DEFS SOFFIT, PAINTED	8/A5.09
5	FUTURE SITE STAIR	
6	FUTURE ROOF & BUILDING	
7	GLASS GUARDRAIL	2/A5.07
8	CUSTOM METAL FABRICATION FPR COMBINATION DRYER EXHAUST/BATHROOM EXHAUST TERMINATION	
9	CAST IN PLACE CONCRETE: REF SPEC FOR FINISH	

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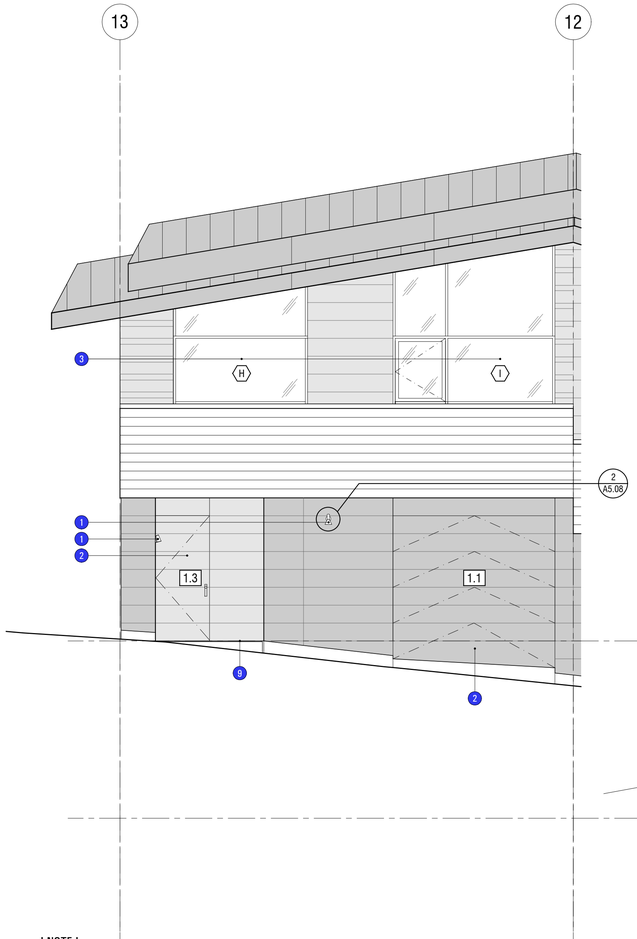
A3.12
LOT 124 EXTERIOR ELEVATIONS

1/4" = 1'-0"
scale

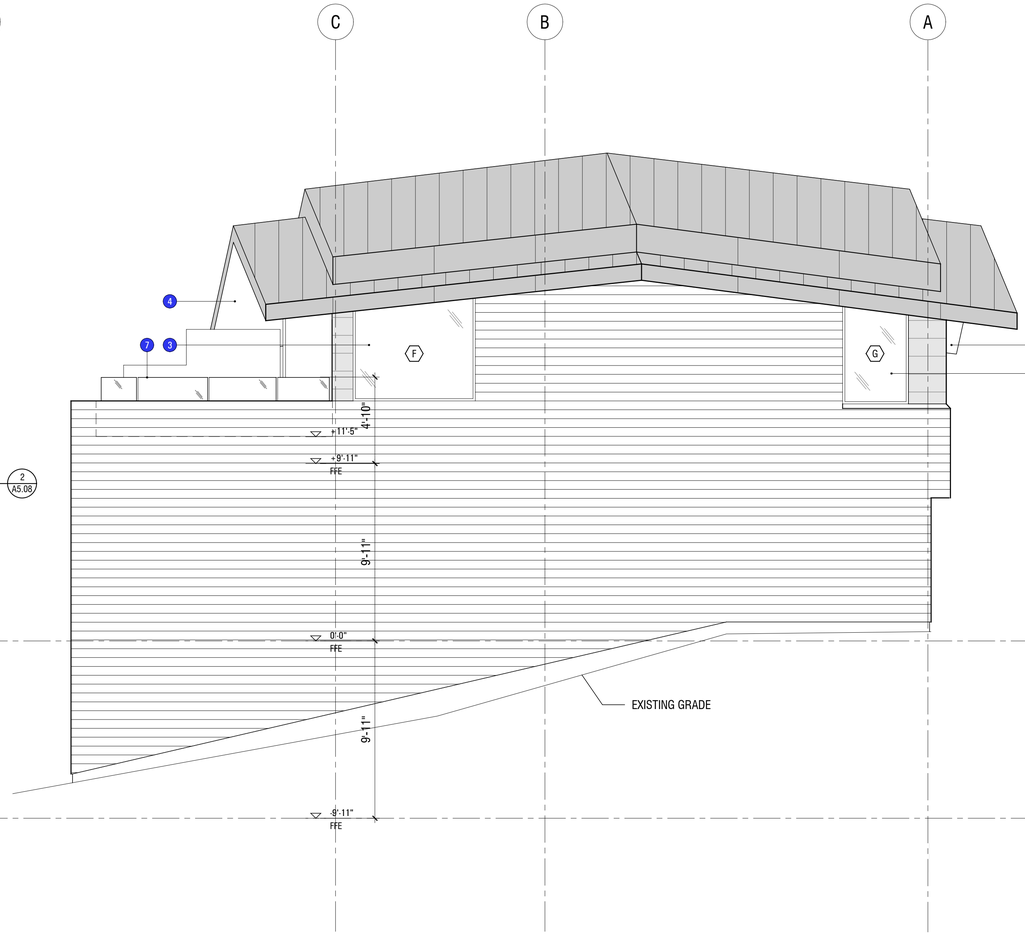
PERMIT SET
phase / rev

2017.06.01
date

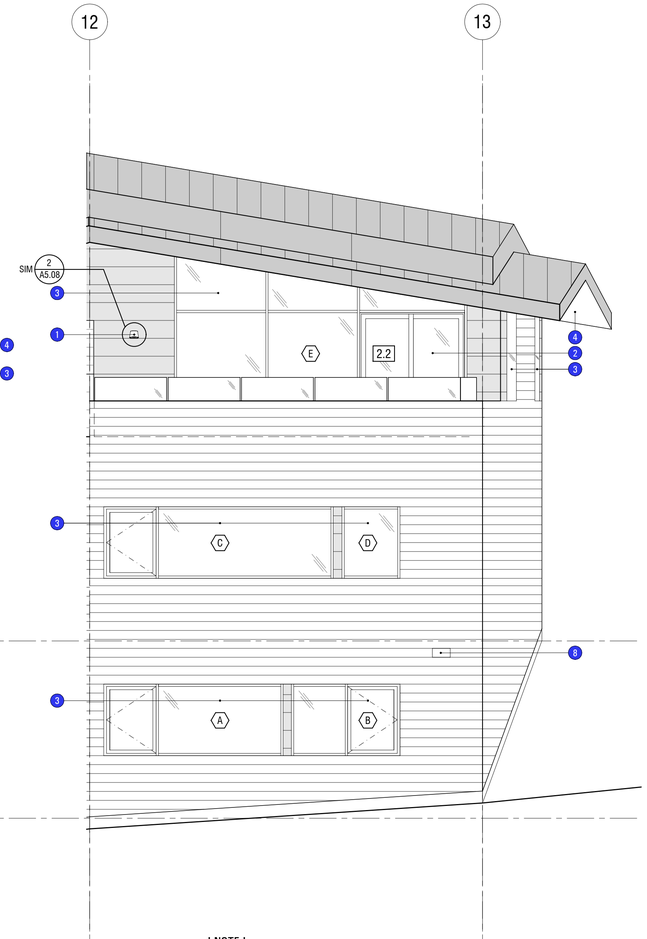


! NOTE !
Typical, non-mirrored, unit is shown. Mirrored typical units have opposite configuration, with opposite hinged/sliding setup. Refer to site plan for mirrored/non-mirrored layout.

1 LOT 133 - NORTH ELEVATION 1/4" = 1'-0"

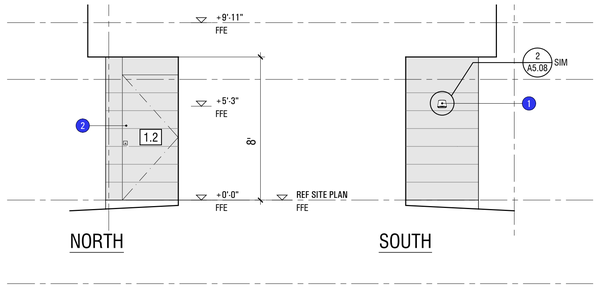


2 LOT 133 - WEST ELEVATION 1/4" = 1'-0"



! NOTE !
Typical, non-mirrored, unit is shown. Mirrored typical units have opposite configuration, with opposite hinged/sliding setup. Refer to site plan for mirrored/non-mirrored layout.

3 LOT 133 - EAST ELEVATION 1/4" = 1'-0"



! NOTE !
Typical, non-mirrored, unit is shown. Mirrored typical units have opposite configuration, with opposite hinged/sliding setup. Refer to site plan for mirrored/non-mirrored layout.

4 LOT 133 - HIDDEN ELEVATIONS @ ENTRY 1/4" = 1'-0"

MATERIALS LEGEND

GENERAL NOTE: Refer to specifications sheet a0.20 - a0.21 for additional material information and installation requirements.

- STANDING SEAM METAL ROOFING
- HORIZONTAL WOOD SIDING
- VERTICAL WOOD SIDING
- GLASS
- HORIZONTAL METAL WALL PANELS

GENERAL EXTERIOR ELEVATION NOTES

1. Refer to 'general sheets' for general notes, symbols, legends, and abbreviations
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7. Typical throughout - Ensure materials transitions and joints are aligned as indicated, and planned to avoid awkward conditions; i.e. adjust window/door layouts to avoid cutting/notching wood cladding; locate seams, joints, and fasteners to be even, aligned, and centered, u.n.o.

EXTERIOR ELEVATION KEYNOTES

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1	LIGHT FIXTURE - REF RCP	
2	DOOR - REF PLAN	
3	WINDOW - REF PLAN	
4	DEFS SOFFIT, PAINTED	8/A5.09
5	FUTURE SITE STAIR	
6	FUTURE ROOF & BUILDING	
7	GLASS GUARDRAIL	2/A5.07
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STATE OF UTAH
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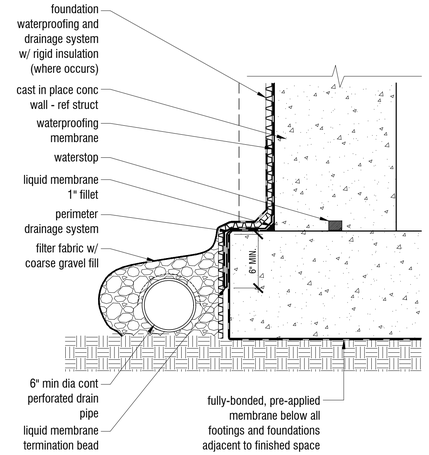
June 1, 2017
REGISTERED ARCHITECT

A3.13
LOT 133 EXTERIOR ELEVATIONS

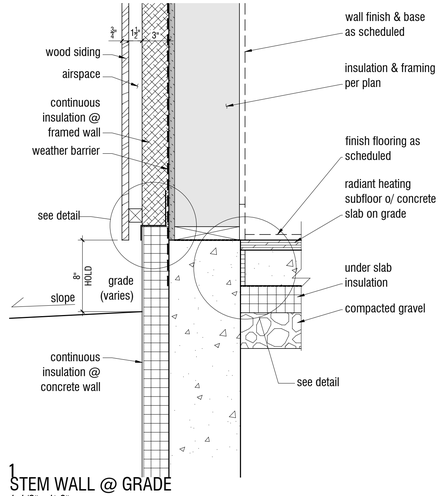
1/4" = 1'-0"
scale

PERMIT SET
phase / rev

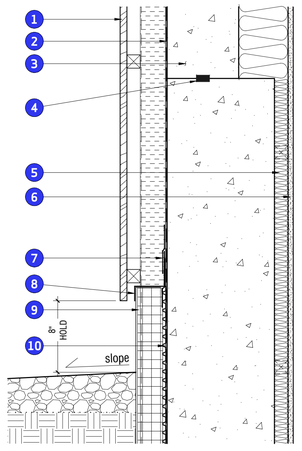
2017.06.01
date



4
FOUNDATION DRAINAGE AND WATERPROOFING
1-1/2"=1'-0"

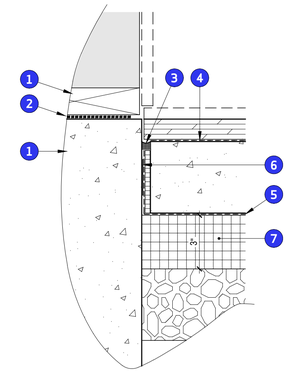


1
STEM WALL @ GRADE
1-1/2"=1'-0"



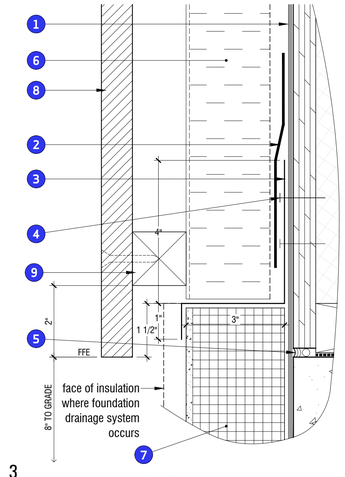
KEYED NOTES
1. wood cladding o/ p/t furring o/ cont insulation
2. waterproofing membrane on face of conc wall - cont
3. c.i.p. conc wall - ref struct
4. waterstop at cold joints, typ
5. batt insulation at int furred wall
6. int finish - ref plan
7. self-adhesive flexible flashing tape
8. sstl 'zee' flashing
9. cont rigid insulation
10. below-grade foundation waterproofing and drainage system

5
WOOD CLADDING OVER FOUNDATION WALL
1-1/2"=1'-0"



KEYED NOTES
1. bottom plate.
2. sill seal.
3. ½" expansion joint filler material and sealant.
4. polyethylene, min. 6 mil thk.
5. vapor barrier: astm e1745 class a, 15 mil thk. turn up @ stem wall as shown.
6. double-sided adhesive strip tape between vapor barrier and stem wall.
7. under-slab insulation.

2
SLAB EDGE @ STEM WALL
3"=1'-0"



KEYED NOTES
1. weather barrier.
2. flexible flashing tape.
3. sstl flashing.
4. sstl fastener.
5. ¼" sealant.
6. continuous insulation @ framed wall.
7. continuous insulation @ concrete wall
8. wood siding
9. pressure-treated furring strip

3
FLASHING @ WOOD SIDING
6"=1'-0"

GENERAL NOTE: WHERE WOOD CLADDING IS INDICATED, CONDITIONS ARE SIMILAR FOR OPPOSITE ORIENTATION; I.E. VERTICALLY OR HORIZONTALLY. REFER TO EXTERIOR ELEVATIONS FOR CLADDING ORIENTATION, TYPICAL U.N.O.

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STATE OF UTAH
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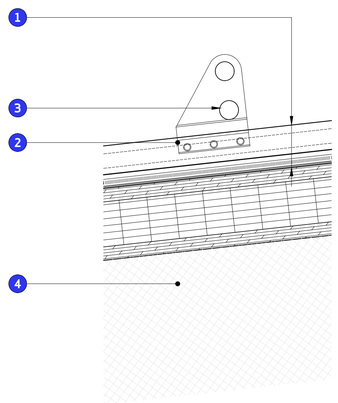
No. 7829867-0301
June 1, 2017
LICENSED ARCHITECT

A5.00
FOUNDATION DETAILS

AS NOTED
scale

PERMIT SET
phase / rev

2017.06.01
date

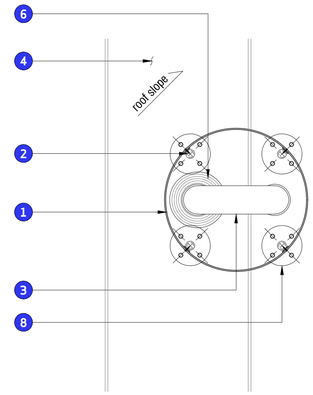


KEYED NOTES

General note - securely fasten all snow guards to align in consistent offset from roof edge as per roof plan - ref mfr for additional installation req's

1. metal roof panel system - ref typical detail
2. snow guard bracket affixed to standing seam w/ three (3) set screws - ref specifications; ref roof plan for locations
3. snow guard rails (x2) - ref specifications
4. roof framing - ref structural

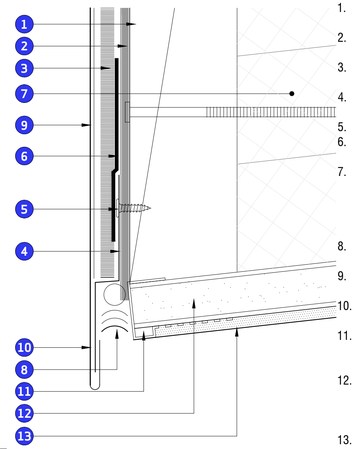
13
SNOW GUARD @ ROOF
3"=1'-0"



KEYED NOTES

1. stl pipe 'shroud' at pipe penetration - ref roof plan for location
2. stl pipe stanchion supports - locate at quarter points clear of roof seams, pipe supports, brackets, or other obstructions, typ
3. pipe penetration - ref plbg for type; pt matte black
4. metal roof below, typ
5. base plates at stanchions, typ of four (4)
6. pre-fabricated epdm pipe flashing; size per pipe

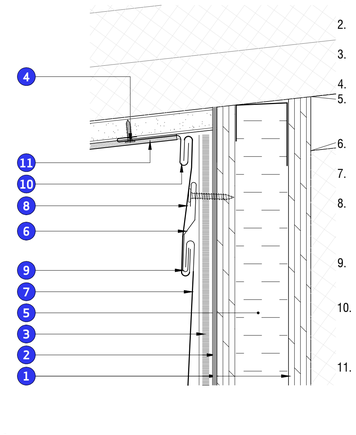
10
PIPE PENETRATION @ ROOF - PLAN VIEW
1-1/2"=1'-0"



KEYED NOTES

1. wood fascia - ref struct
2. weather barrier.
3. breathable underlayment
4. sstl cleat, 18 ga min.
5. sstl fastener.
6. flexible flashing tape
7. full cavity depth, air-impermeable insulation @ framing.
8. backer rod and sealant
9. metal wall panel, typ
10. hemmed drip edge
11. DEFS edge termination trim
12. 5/8" ext. grade fiberglass mat-faced gwb
13. DEFS, finish as specified

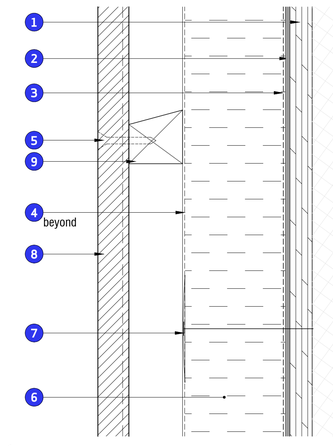
7
DEFS SOFFIT TERMINATION
FULL SCALE



KEYED NOTES

1. plywood sheathing
2. weather barrier.
3. breathable underlayment
4. sstl fastener.
5. continuous insulation @ framed wall.
6. sstl metal panel clip
7. metal wall panel, typ
8. custom metal wall panel - align to soffit slope
9. hook seam, typ per SMACNA
10. termination flashing to match metal wall panel
11. DEFS o/ ext. grade fiberglass mat-faced gwb

4
METAL CLADDING @ DEFS SOFFIT
6"=1'-0"



KEYED NOTES

1. plywood sheathing
2. weather barrier.
3. flexible flashing tape.
4. sstl 'zee' flashing.
5. sstl fastener.
6. continuous insulation @ framed wall.
7. insulation fastener and plate washer, as req'd
8. vertical wood cladding
9. 2x2 pressure-treated furring strip @ 24" o.c. vertically; provide 15° slope at top of furring, typ when furring installed horizontally

1
TYPICAL WOOD CLADDING
6"=1'-0"

KEYED NOTES

1. stl pipe 'shroud' at pipe penetration - ref roof plan for location; fabricate from A847 stl (weathering) 16"Ø x 1/8" wall, typ
2. stl pipe stanchion supports - locate at quarter points clear of roof seams, pipe supports, brackets, or other obstructions, typ; fabricate from A847 stl (weathering) 1"Ø x 1/8" wall, solid stl plate top to match
3. #10 hdg self-drilling screws; min (3) per stanchion - install w/ epdm shims at ea fastener
4. pipe stanchion base plate - A847 stl 3/16" x 4-1/2"Ø - 1/4" fillet weld all around; install w/ (4) 1/4" x 2" hdg lag bolts to nailers below, typ
5. solid shims below ea base plate, typ below metal roof panel; provide self-adhering flexible flashing tape o/ all shims - extend min 4" all around
6. self-sealing butyl tape at all fasteners and below base plates, typ
7. pipe penetration - ref plbg for type; pt matte black
9. pre-fabricated epdm pipe flashing; size per pipe
10. metal roof system - ref typ detail
11. fully seal pipe penetration through roof assembly

11
PIPE PENETRATION @ ROOF
3"=1'-0"

NOTE:
Refer to Typical Wood Wall Cladding Detail for typical notes and installation requirements.

flexible flashing tape

20ga sstl flashing and fastener, slope away from building

8
WOOD CLADDING @ DEFS SOFFIT
3"=1'-0"

KEYED NOTES

1. wood framing / sheathing - ref struct
2. horizontal wood cladding assembly - see typ details
3. metal wall panel assembly - see typ details
4. continuous insulation @ framed wall.
5. flexible flashing tape
6. brake-formed ptd alum sill flashing (0.080in) w/ hemmed drip
7. alum cleat to match sill flashing; ptd side faces out
8. metal wall panel w/ hemmed drip
9. p/t furring strip
10. sstl fastener

5
METAL WALL PANEL TO HORIZ WD CLADDING
6"=1'-0"

KEYED NOTES

1. plywood sheathing
2. weather barrier.
3. flexible flashing tape.
4. sstl 'zee' flashing.
5. sstl fastener.
6. continuous insulation @ framed wall.
7. insulation fastener and plate washer, as req'd
8. horizontal wood cladding
9. 2x2 pressure-treated furring strip @ 24" o.c. horiz.

2
TYPICAL HORIZONTAL WOOD CLADDING
6"=1'-0"

14
TYPICAL 'DEFS' SOFFIT
6"=1'-0"

KEYED NOTES

1. plywood sheathing
2. weather barrier, cont
3. breathable underlayment
4. sstl metal panel slip w/ sstl fastener.
5. continuous insulation @ framed wall.
6. metal wall panel, typ
7. hook seam, typ per SMACNA
8. 2x wood furring
9. omit wood sheathing at exterior portion of demising wall extension

12
METAL CLADDING @ CORNER RETURN - PLAN VIEW
3"=1'-0"

KEYED NOTES

1. wood framing / sheathing - ref struct
2. wood cladding assembly - see typ details
3. continuous insulation @ framed wall.
4. sstl 'zee' flashing w/ sstl fasteners
5. sstl j flashing w/ sstl fasteners; rivet where back-to-back
6. weather barrier cont around corner
7. insulated corner per advanced framing techniques

NOTE: wd cladding shown installed vertically - horiz is sim.

9
WOOD CLADDING AT CORNER - PLAN VIEW
3"=1'-0"

KEYED NOTES

1. wood framing / sheathing - ref struct
2. horizontal wood cladding assembly - see typ details
3. metal wall panel assembly - see typ details
4. continuous insulation @ framed wall.
5. flexible flashing tape
6. brake-formed perforated sstl closure - ptd black
7. termination flashing w/ hemmed drip
8. DEFS o/ ext. grade fiberglass mat-faced gwb

6
HORIZONTAL WOOD CLADDING AT SOFFIT
3"=1'-0"

KEYED NOTES

1. plywood sheathing
2. weather barrier.
3. breathable underlayment
4. sstl 'zee' flashing.
5. sstl fastener.
6. continuous insulation @ framed wall.
7. sstl metal panel clip
8. metal wall panel, typ
9. hook seam, typ per SMACNA

3
TYPICAL METAL CLADDING
6"=1'-0"

GENERAL NOTE: WHERE WOOD CLADDING IS INDICATED, CONDITIONS ARE SIMILAR FOR OPPOSITE ORIENTATION; I.E. VERTICALLY OR HORIZONTALLY. REFER TO EXTERIOR ELEVATIONS FOR CLADDING ORIENTATION, TYPICAL U.N.O.

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Phoenix, Arizona 85004
T 602 251 3800

sma project no.
16-101

sma project name
POWDERCAT

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11180 sunrise valley drive, ste 300
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CIVIL
talisman civil consultants
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MECH/PLBG/ELEC
peterson associates consulting engineers, inc.
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LANDSCAPE
langvardt design group
328 W 200 S
salt lake city, ut 84101
t (801) 583-1295

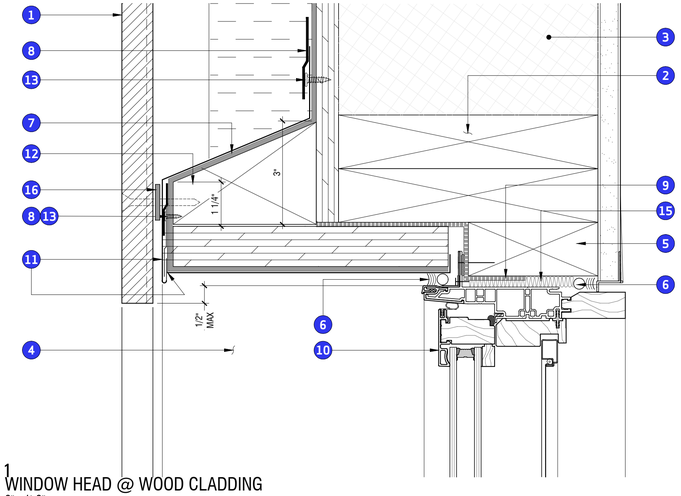
STATE OF UTAH
DANIEL HOFFMAN
No. 7829867-0301
June 1, 2017
LICENSED ARCHITECT

A5.01
EXTERIOR DETAILS

AS NOTED
scale

PERMIT SET
phase / rev

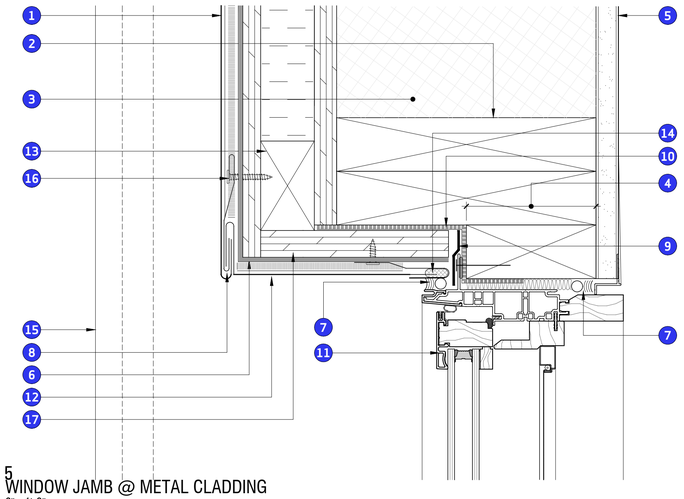
2017.06.01
date



KEYED NOTES
(Refer to Typ Jamb Detail for notes and dimensions not indicated here.)

1. wood cladding assembly - ref typical detail
2. wood framing / sheathing - ref struct
3. cont insulation @ framed wall
4. jamb flashing beyond
5. 2x wood buck - size to align inside face of jamb w/ interior finish
6. backer rod and sealant
7. weather barrier, cont around framing
8. flexible flashing tape
9. self-adhering flashing - fully wrap head/jamb/sill of opening
10. window jamb w/ integral nailing flange - set in continuous bead of sealant
11. brake-formed alum (0.080in) two-piece head flashing w/ hemmed drip edge as indicated - pnt to match window
12. p/t shaped blocking
13. cont alum cleat - (0.080in) w/ sstl fastener, typ
14. 1-1/8" ext grade plywood
15. expanding foam insulation - typ all around shim spaces
16. 3/16" thk (min.) x 1" dia high durometer EPDM washer/space @ each fastener thru head flashing, typ

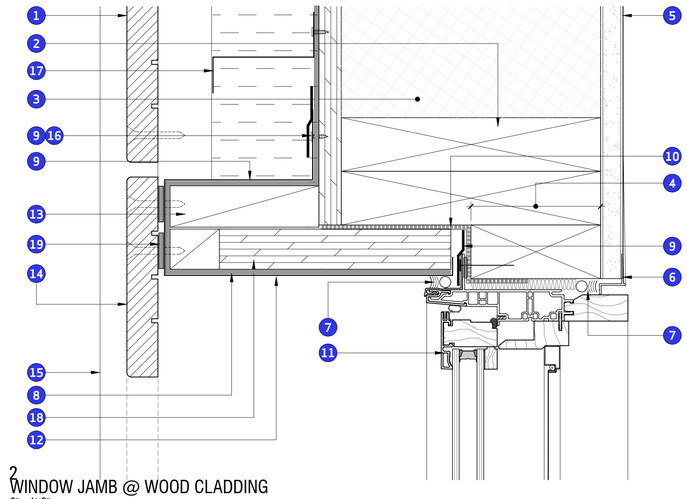
1
WINDOW HEAD @ WOOD CLADDING
6"=1'-0"



KEYED NOTES

1. metal cladding assembly - ref typical detail
2. wood framing / sheathing - ref struct
3. continuous insulation @ framed wall
4. 2x wood buck - size to align inside face of jamb w/ interior finish
5. interior finish as scheduled
6. weather barrier, cont around framing
7. backer rod and sealant
8. metal termination lock seam w/ sstl cleat and sstl fastener
9. flexible flashing tape
10. self-adhering flashing - fully wrap head/jamb/sill of opening
11. window jamb w/ integral nailing flange - set in continuous bead of sealant
12. brake-formed metal cladding to match wall panels
13. 2x p/t nailer
14. terminate metal cladding in hook seam w/ cont bead of sealantl
15. sill below
16. sstl cleat and fastener, typ
17. 3/4" ext grade plywood - extend to within 1/4" of nail flange at window; shim to true/plumb

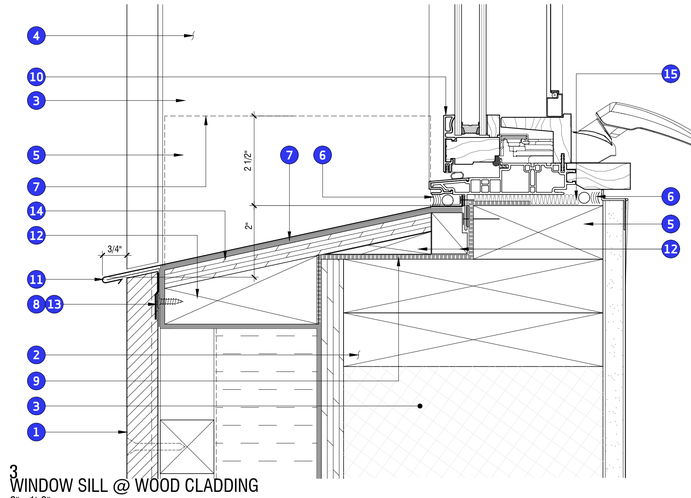
5
WINDOW JAMB @ METAL CLADDING
6"=1'-0"



KEYED NOTES

1. wood cladding assembly - ref detail
2. wood framing / sheathing - ref struct
3. cont insulation @ framed wall
4. 2x wood buck - size to align inside face of jamb w/ interior finish
5. interior finish as scheduled
6. ptd alum 'z' trim w/ 1/4" leg (Fry Reglet DRMZ-625-25, or eq)
7. backer rod and sealant
8. weather barrier, cont around framing
9. flexible flashing tape
10. self-adhering flashing - fully wrap head/jamb/sill of opening
11. window jamb w/ integral nailing flange - set in continuous bead of sealant
12. brake-formed alum (0.080in) trim/cladding - pnt to match window
13. p/t nailer - align w/ edge of wood cladding
14. cantilevered wood cladding - fasten to nailers
15. sill below
16. sstl fastener, typ
17. sstl 'zee' flashing, ptd black
18. 1-1/8" ext grade plywood - extend to within 1/4" of nail flange at window; shim to true/plumb
19. 3/16" thk (min.) x 1" dia high durometer EPDM washer/space @ each fastener thru head flashing, typ

2
WINDOW JAMB @ WOOD CLADDING
6"=1'-0"



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1. wood cladding assembly - ref typical detail
2. wood framing / sheathing - ref struct
3. cont insulation @ framed wall
4. jamb flashing beyond
5. 2x wood buck - size to align inside face of jamb w/ interior finish
6. backer rod and sealant
7. weather barrier, cont around framing
8. flexible flashing tape
9. self-adhering flashing - fully wrap head/jamb/sill of opening
10. window jamb w/ integral nailing flange - set in continuous bead of sealant
11. brake-formed alum (0.080in) sill flashing w/ hemmed drip edge as indicated - pnt to match window
12. p/t shaped blocking
13. cont alum cleat - (0.080in) w/ sstl fastener, typ
14. 5/8" ext grade plywood
15. expanding foam insulation - typ all around shim spaces

3
WINDOW SILL @ WOOD CLADDING
6"=1'-0"

GENERAL NOTE: WHERE WOOD CLADDING IS INDICATED, CONDITIONS ARE SIMILAR FOR OPPOSITE ORIENTATION; I.E. VERTICALLY OR HORIZONTALLY. REFER TO EXTERIOR ELEVATIONS FOR CLADDING ORIENTATION, TYPICAL U.N.O.

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REGISTERED ARCHITECT

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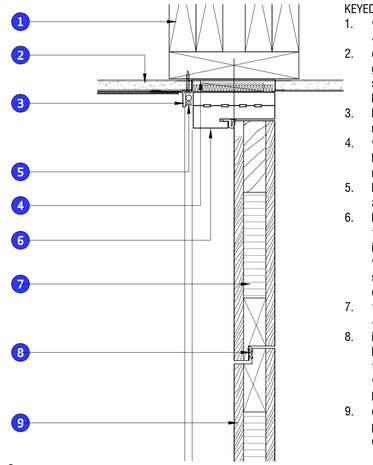
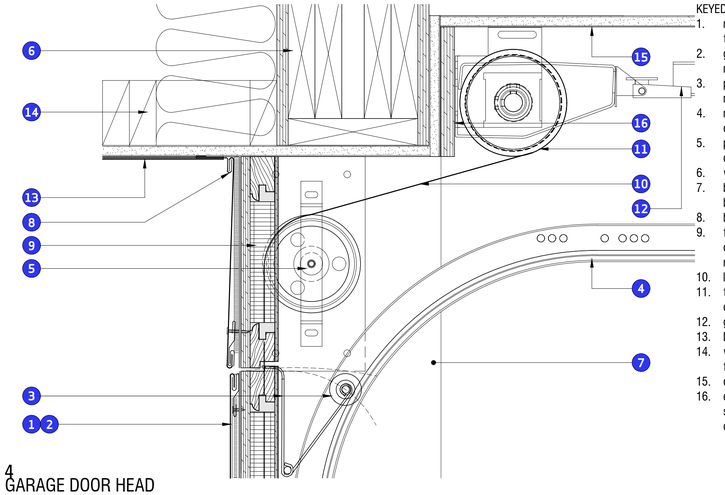


KEYED NOTES
1. wood framing - ref struct
2. ext grade gypsum sheathing w/ DEFS
3. brake-formed metal trim
4. weather barrier membrane
5. backer rod and sealant
6. hardwood frame w/ integral weather-stripping by door mfr.
7. fixed transom - by door mfr
8. interlocking head at transom w/ weatherstripping by door mfr
9. operable door panel - by door mfr

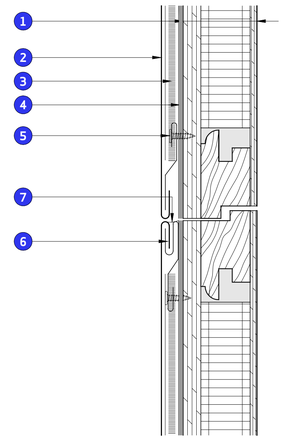
9

8
ENTRY DOOR - HEAD AND TRANSOM
3"=1'-0"



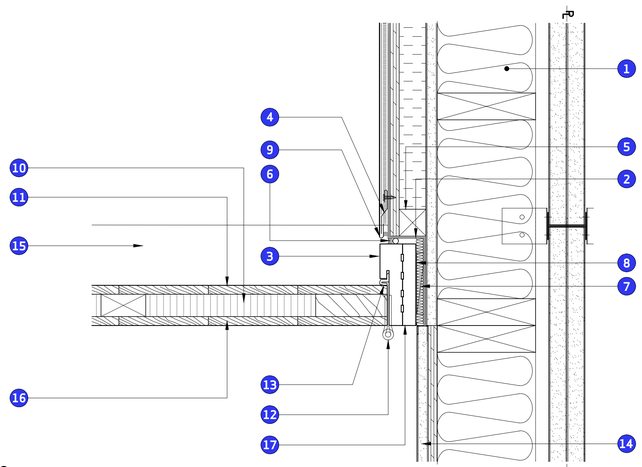
KEYED NOTES
1. metal wall cladding assembly - ref typical detail
2. garage door assembly - by mfr, w/ metal cladding by project
3. pivot mechanism - by garage door mfr
4. roller and track assembly - by garage door installer
5. pulley assembly - above; by garage door installer
6. wood framing - ref struct
7. brake-formed metal trim/cladding beyond
8. brake-formed termination trim
9. fixed transom panel to match garage door panel; provide addt'l frm'g as req'd for installation
10. lifting cable - by garage door mfr
11. torsion spring assembly - by garage door mfr
12. garage door operator track
13. DEFS o/ ext grade gypsum sheathing
14. wood framing for finish installation - fill cavity w/ batt insulation
15. ceiling finish as scheduled
16. ext grade MDO shims as req'd for spring installation - paint to match ceiling finish

4
GARAGE DOOR HEAD
3"=1'-0"



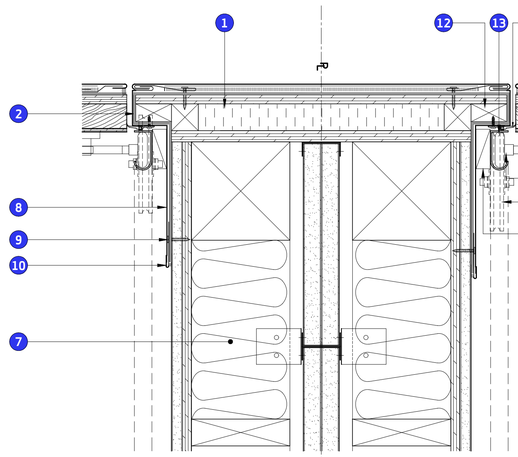
KEYED NOTES
1. garage door assembly - by mfr: 1/2" marine grade plywood o/ polystyrene insulation core o/ 3/16" exterior grade plywood liner w/ hardwood stile and rail panel construction.
2. metal wall panel, typ
3. breathable underlayment
4. self-adhering water resistant barrier
5. sstl metal panel clip w/ sstl fastener
6. sstl top cleat - hand-brake top panel edge as req'd
7. cont sealant

1
TYPICAL METAL CLAD GARAGE DOOR SECTION
6"=1'-0"



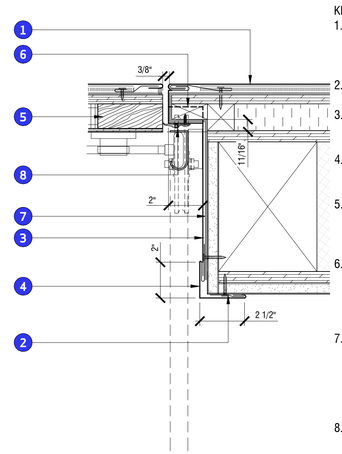
KEYED NOTES
1. demising wall assembly - ref wall types; omit wood sheathing at exterior portion of demising wall extension
2. cont weather barrier - wrap around jamb and extend to back of jamb
3. hardwood door frame w/ integral weatherstripping by door mfr.
4. sstl cleat w/ sstl fastener
5. p/t wood furring
6. backer rod and sealant
7. expanding foam insulation, typ at all shim spaces
8. shim, as req'd
9. - not used -
10. exterior wood door assembly w/ hardwood jamb, and rail and stile door panel w/ rigid insulation - by door mfr
11. hardwood cladding on exterior face of door w/ ext rated UV-resistant transparent finish, by door mfr.
12. full mortise hinges, typ
13. weather stripping by door mfr
14. interior finish as scheduled
15. threshold below
16. finished hardwood panels at interior face of door - by door mfr.
17. hardwood jamb - by door mfr.

10
ENTRY DOOR - HINGE JAMB (SIDELITE JAMB SIM.)
3"=1'-0"



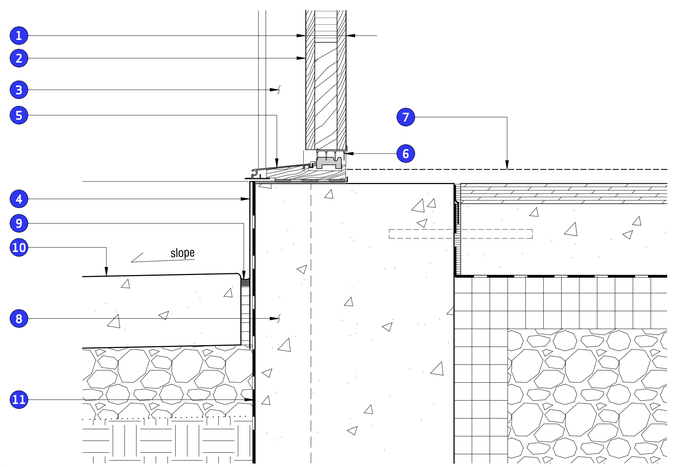
KEYED NOTES
1. metal wall cladding assembly - ref typical detail
2. weather barrier - cont wrap around opening
3. garage door assembly - by mfr w/ metal cladding by project
4. hinge assembly - by garage door mfr
5. shim - by garage door installer
6. pully assembly - above; by garage door installer
7. demising wall - ref wall types; cont to face of sheathing
8. brake-formed metal trim/cladding
9. sstl metal panel clip w/ sstl fastener, typ
10. hook seam, typ per SMACNA w/ sealant at joint
11. weather stripping, typ
12. p/t wood furring - return metal cladding trim
13. track and roller assembly - by garage door installer

5
GARAGE DOOR JAMB @ DEMISING WALL
3"=1'-0"



KEYED NOTES
1. metal wall cladding assembly - ref typ detail
2. sstl clip w/ sstl fastener
3. brake-formed metal trim/ cladding
4. brake-formed metal corner trim
5. garage door - by mfr w/ metal cladding by project
6. p/t wood furring - omit at transom and return metal cladding trim
7. wrap waterproof membrane around to inside face of wall, typ
8. weather stripping, typ

2
GARAGE DOOR JAMB @ SHEARWALL
3"=1'-0"

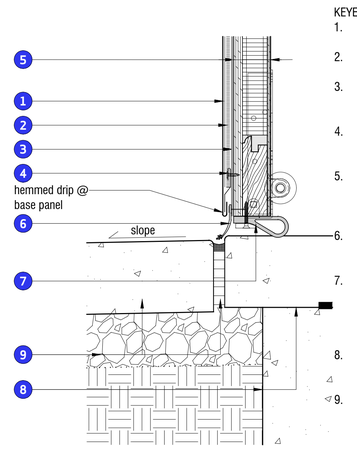


KEYED NOTES
1. exterior wood door assembly w/ hardwood jamb, and rail and stile door panel w/ rigid insulation - by door mfr
2. hardwood cladding on exterior face of door w/ ext rated UV-resistant transparent finish, by door mfr.
3. brake-formed metal trim/cladding; conform tightly to door jamb profile
4. metal sub-sill flashing - set in full mastic bed; provide bituminous coating o/ portion below sill
5. threshold by door mfr - set in full width sealant beds
6. door bottom by door mfr
7. interior floor finish as scheduled o/ plywood subfloor o/ slab on grade o/ vapor barrier o/ rigid foam underslab insulation o/ compacted base course - ref struct
8. conc stemwall; face of stemwall at entry door projects from typical face of stemwall at framed wall locations - ref struct
9. expansion joint mat'l and sealant
10. conc sidewalk
11. waterproofing o/ conc wall

11
ENTRY DOOR - SILL
3"=1'-0"

7

6



KEYED NOTES
1. metal wall panel
2. breathable underlayment
3. self-adhering water resistant barrier
4. sstl metal panel clip w/ sstl fastener.
5. garage door panel assembly - by mfr
6. garage door sweep - pemko #V365
7. garage door sill seal - pemko #N199 w/ 196A retainer bar
8. conc garage slab and stemwall
9. conc sidewalk w/ expansion joint at slab o/ aggregate base course and subgrade, typ

3
TYPICAL METAL CLAD GARAGE DOOR SECTION
3"=1'-0"

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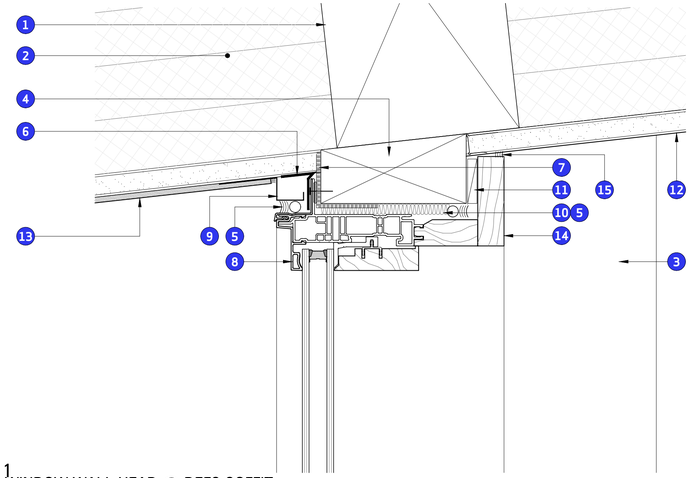
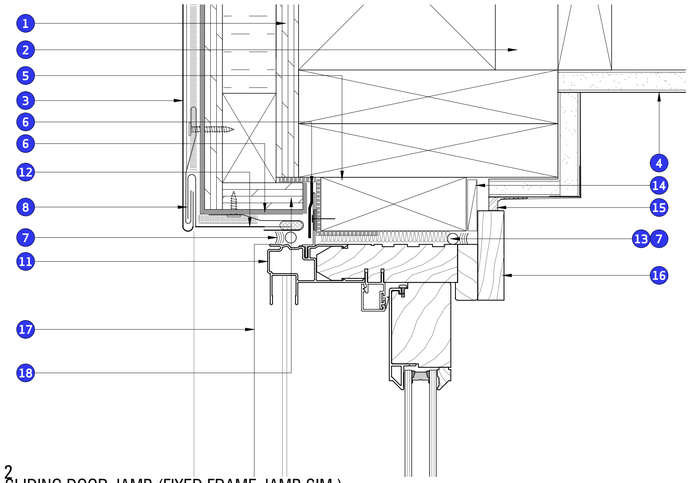


KEYED NOTES

1. wood framing / sheathing - ref struct
2. cont insulation @ framed wall
3. interior finish beyond
4. 2x shaped wood buck - size from nail flange to back of jamb less 1/4" min shim space
5. backer rod and sealant
6. flexible flashing tape
7. self-adhering flashing - fully wrap head/jamb/sill of opening
8. direct-set window head w/ integral nailing flange - set in continuous bead of sealant
9. brake-formed alum (0.080in) head flashing w/ return edge as indicated - pnt to match window
10. expanding foam insulation - typ all around shim spaces
11. shim
12. interior ceiling finish as scheduled
13. exterior soffit w/ DEFS finish o/ exterior grade gwb
14. casing - 2.5" width (v.i.f.) - by window mfr
15. paintable sealant

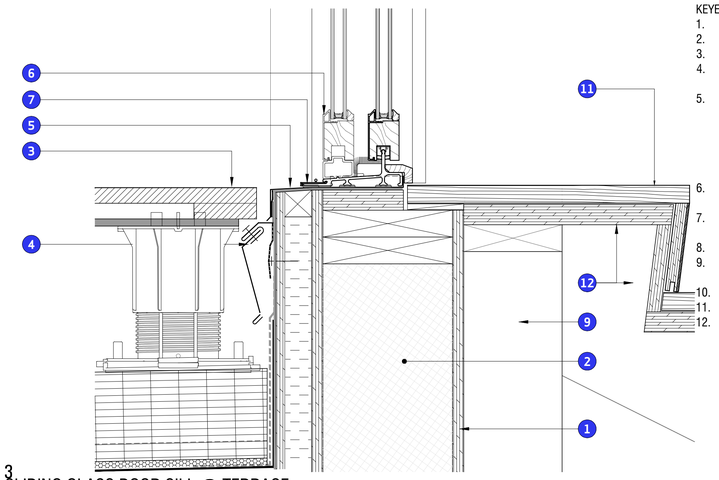
1
WINDOW WALL HEAD @ DEFS SOFFIT
6"=1'-0"



KEYED NOTES

1. wood framing / sheathing - ref struct
2. cont insulation @ framed wall
3. metal cladding assembly - ref typical details
4. interior finish beyond
5. 2x wood buck - size from nail flange to back of jamb less 1/4" min shim space
6. weather barrier, cont around framing
7. backer rod and sealant
8. metal temination lock seam w/ sstl cleat and fastener
9. flexible flashing tape
10. self-adhering flashing - fully wrap head/jamb/sill of opening
11. alum clad wood sliding glass door frame and sash - set in continuous bead of sealant; see door schedule
12. brake-formed metal cladding to match wall panels
13. expanding foam insulation - typ all around shim spaces
14. shim
15. aluminum trim - Fry Reglet DRMPET-375 - pnt to match wall
16. casing - 2.5" width (v.i.f.) - by window mfr
17. sill below
18. 3/4" ext grade plywood - extend to within 1/4" of nail flange at window; shim to true/plumb

2
SLIDING DOOR JAMB (FIXED FRAME JAMB SIM.)
6"=1'-0"



KEYED NOTES

1. wood framing / sheathing - ref struct
2. cont insulation @ framed wall
3. terrace paver system - ref details
4. counterflashing o/ roofing termination flashing
5. brake-formed alum (0.080in) sub-sill flashing - install o/ self-adhering flashing - fully wrap sill opening - provide w/ end dams; pnt to match window. slope exposed face to drain typ, provide drip edge
6. aluminum clad wood sliding glass door sash - ref door schedule
7. alum sill track; set in continuous beads of sealant
8. in-floor convector unit - ref mech
9. 2x6 wood framing as req'd to support convector/stringer
10. shim
11. floor finish - as scheduled
12. LVL stair stringer w/ 1-1/8" plywood treads and 3/4" plywood risers

3
SLIDING GLASS DOOR SILL @ TERRACE
3"=1'-0"

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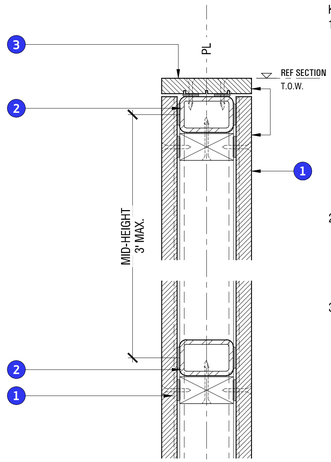


KEYED NOTES

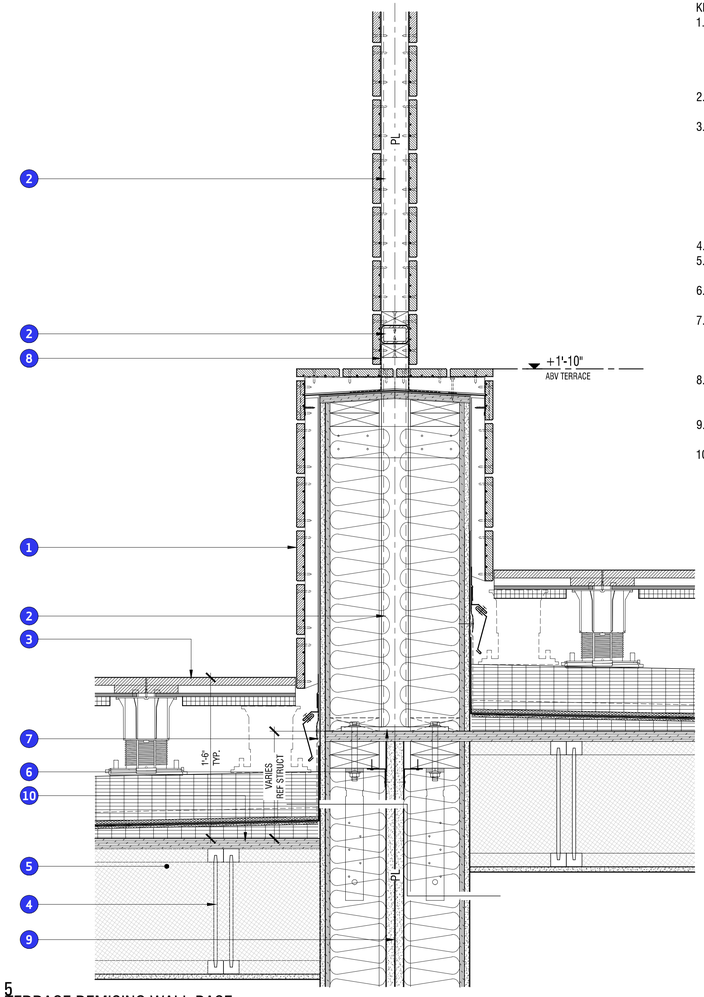
1. wood cladding - install vertically o/ p/t furring (horiz) attached to hdg tube steel framework w/ sstl tek-screw and epdm washer(s) as req'd for isolation and shimming
2. hdg tube steel - 2x4x1/4" welded to 4x4x1/4" vertical members
3. wood cladding top rail; trim to align w/ face of cladding below; install directly to stl framework w/ sstl tek-screw and epdm washers for isolation and shimming.

6
TERRACE DEMISING WALL SECTION
3"=1'-0"

KEYED NOTES

1. wd cladding - install horiz o/ p/t furring
2. p/t wd frame and furring @ panel & opn'g
3. sstl ball bearing leaf hinge (3.5x4.5)
4. NEMA 3R rated side-opn'g enclosure for disconnect - ref elec dwgs
5. cut notch in edge of panel for access, eas all corners and edges; provide spring catch abv and below
6. hdg tube steel column - 4x4x1/4 - ref struct; install p/t furring w/ sstl tek screws
7. hdg 10ga stl mounting plate
8. wd clad panel o/ disconnect

7
TERRACE DEMISING WALL ELECTRICAL DISCONNECT
1-1/2"=1'-0"



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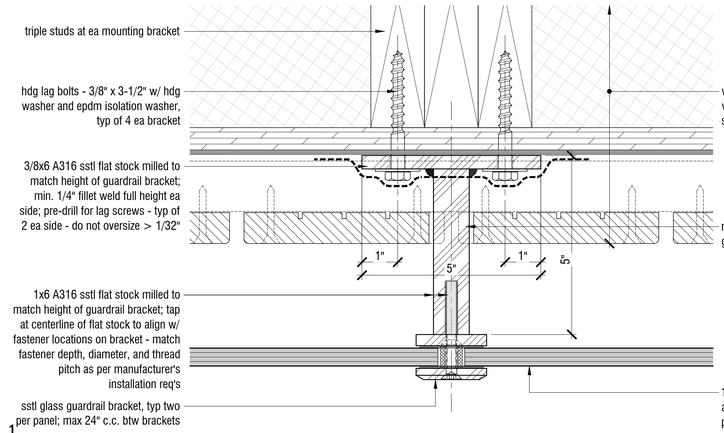
1. wood cladding - install vertically o/ p/t furring (horiz) attached to hdg tube steel framework w/ sstl tek-screw and epdm washer(s) as req'd for isolation and shimming
2. hdg tube steel - 2x4x1/4" welded to 4x4x1/4" vertical members
3. wood paver system: wood tiles o/ snow-melt o/ adjustable paver pedestals o/ rigid foam insulation o/ drainage mat o/ waterproof membrane o/ 1/4" coverboard o/ sloped rigid foam insulation (1/4" per 12", typ) o/ plywood sheathing - ref struct
4. wood framing - ref struct
5. spray polyurethane insulation - fill roof joist cavity full width and depth
6. hdg steel base plate w/ anchor bolts and straps - ref struct
7. wrap waterproofing membrane up wall to min. 4" above roof high point and terminate w/ counterflashing and flexible flashing tape
8. pipe/penetration flashing w/ sealant at termination - affix per NRCA recommendations
9. rated demising wall framing - ref wall types
10. fire retardant treated plywood sheathing for min 4' ea side of property line

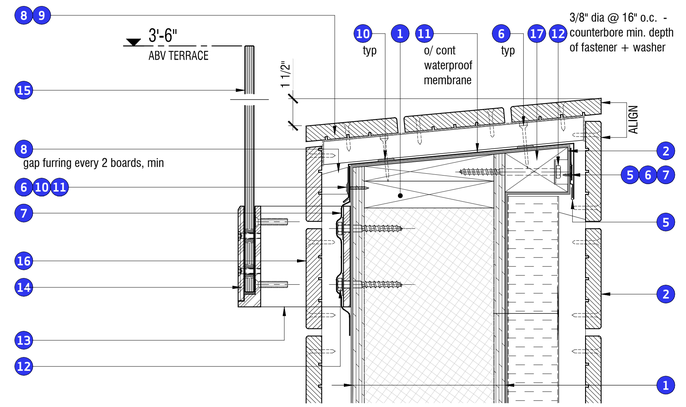
5
TERRACE DEMISING WALL BASE
1-1/2"=1'-0"



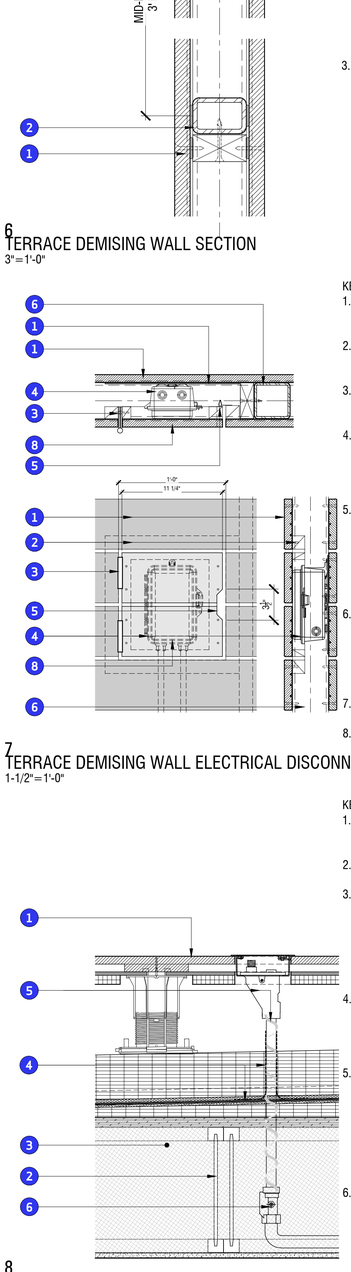
1
GLASS GUARDRAIL MOUNTING BRACKET
6"=1'-0"

KEYED NOTES

1. wood framing / sheathing - ref struct
2. vertical wood cladding assembly - see typ details
3. vertical wood cladding assembly less continuous insulation
4. waterproof membrane
5. sstl cleat, 20 ga min.
6. sstl fastener.
7. flexible flashing tape
8. 2x p/t furring/blocking w/ 15° slope
9. self-adhering waterproof deck protector wrap
10. 1" min butyl tape
11. ptd brake-formed aluminum cap flashing (0.080in) w/ hemmed drip edges; provide sstl cleats and fasteners
12. hdg lag bolt and washer; provide epdm isolation washer at dissimilar metals, typ.
13. sstl fabricated guardrail mount - ref bracket detail
14. sstl glass guardrail bracket, epdm setting pads, and sstl fasteners
15. 1/2" tempered glass guardrail w/ seamed and polished edges
16. notch wood cladding around guardrail mounting brackets, typ
17. shaped p/t wood blocking



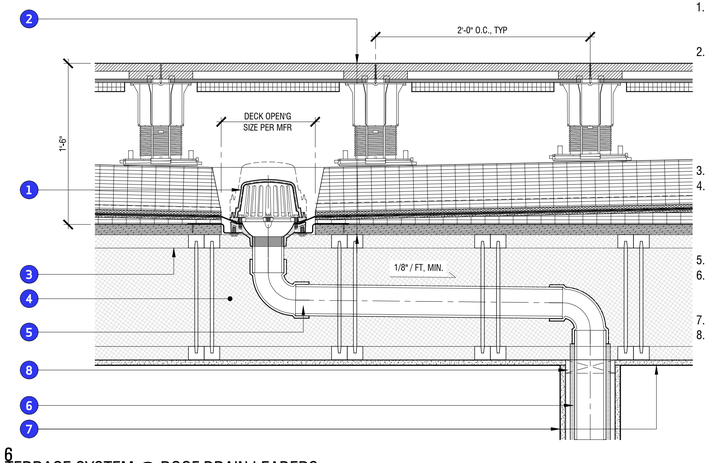
2
GLASS GUARDRAIL - SECTION
3"=1'-0"



KEYED NOTES

1. wood paver system
2. wood framing - ref struct
3. spray polyurethane insulation - fill roof joist cavity full width and depth
4. pipe / penetration flashing w/ sealant at termination
5. roof hydrant - ref plbg; provide integral key/ handle and heat trace pipe for full depth of bury
6. connect drain to waste line; connect supply - ref plbg

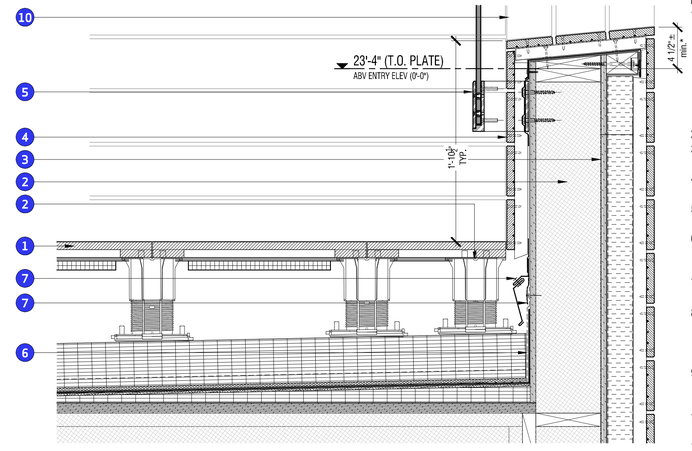
8
TERRACE ROOF HYDRANT
1-1/2"=1'-0"



KEYED NOTES

1. roof drain w/ deck plate; overflow shown dashed beyond w/ 2" collar above primary drain - ref plbg
2. wood paver system: wood tiles o/ snow-melt o/ adjustable paver pedestals o/ rigid foam insulation o/ drainage mat o/ waterproof membrane o/ 1/4" coverboard o/ sloped rigid foam insulation (1/4" per 12", typ) o/ plywood sheathing - ref struct
3. wood framing - ref struct
4. spray polyurethane insulation - fill roof joist cavity full width and depth; fully encapsulate roof drain leaders - provide sealants/coatings as req'd prior to insulating
5. roof drain leaders and fittings
6. min 1/2" fiberglass pipe insulation full height of stud cavity at drain leaders
7. ceiling/wall finish as scheduled
8. interior non-load bearing wall framing

6
TERRACE SYSTEM @ ROOF DRAIN LEADERS
1-1/2"=1'-0"



KEYED NOTES

1. wood paver system: wood tiles o/ snow-melt o/ adjustable paver pedestals o/ rigid foam insulation o/ drainage mat o/ waterproof roofing membrane o/ 1/4" coverboard o/ sloped rigid foam insulation (1/4" per 12", typ) o/ plywood sheathing - ref struct
2. wood framing - ref struct
3. wood cladding assembly - ref typical detail
4. wood cladding assembly less continuous insulation
5. glass guardrail and bracket - ref detail
6. waterproof roofing membrane - lap up wall sheathing to min 4" above roofing high point
7. termination bar and flexible flashing tape
8. two-piece stainless steel counterflashing and receptor w/ sstl fasteners; provide flexible flashing tape o/ leg of flashing
9. modify pedestals and tiles at perimeter to accommodate layout and wall geometry
10. turned-up wd cladding beyond

* adjust dim as req'd for full wood cladding board as per ext elev.

3
TERRACE SYSTEM @ GUARDRAIL
1-1/2"=1'-0"

GENERAL NOTE: WHERE WOOD CLADDING IS INDICATED, CONDITIONS ARE SIMILAR FOR OPPOSITE ORIENTATION; I.E. VERTICALLY OR HORIZONTALLY. REFER TO EXTERIOR ELEVATIONS FOR CLADDING ORIENTATION, TYPICAL U.N.O.

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STATE OF UTAH
DANIEL HOFFMAN
No. 7829867-0301
June 1, 2017
REGISTERED ARCHITECT

A5.07
TERRACE DETAILS

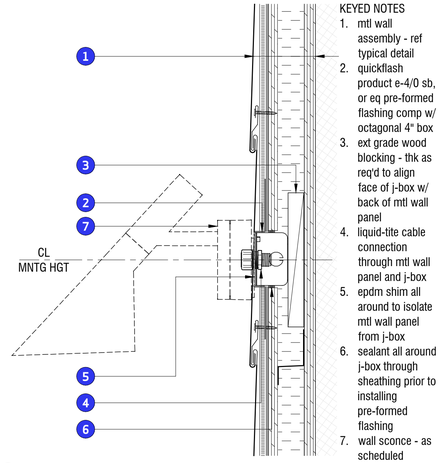
AS NOTED
scale

PERMIT SET
phase / rev

2017.06.01
date

6

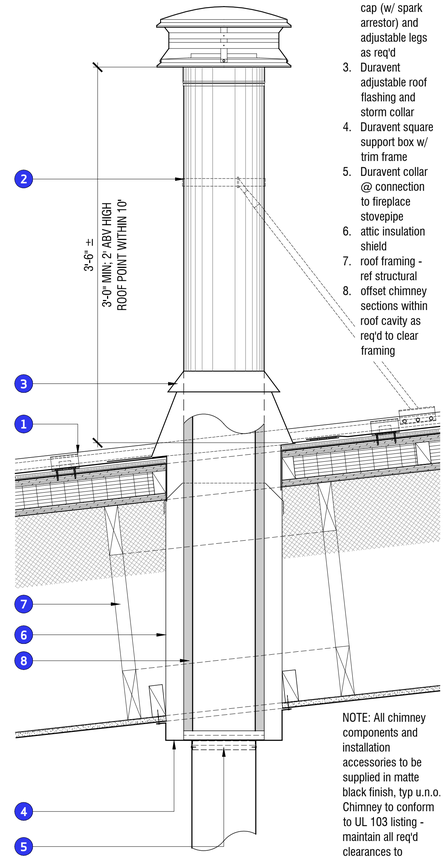
4



KEYED NOTES

1. mtl wall assembly - ref typical detail
2. quickflash product e-4/0 sb, or eq pre-formed flashing comp w/ octagonal 4" box
3. ext grade wood blocking - thk as req'd to align face of j-box w/ back of mtl wall panel
4. liquid-tite cable connection through mtl wall panel and j-box
5. epdm shim all around to isolate mtl wall panel from j-box
6. sealant all around j-box through sheathing prior to installing pre-formed flashing
7. wall sconce - as scheduled

2
WALL SCONCE @ MTL WALL CLADDING
3"=1'-0"



KEYED NOTES

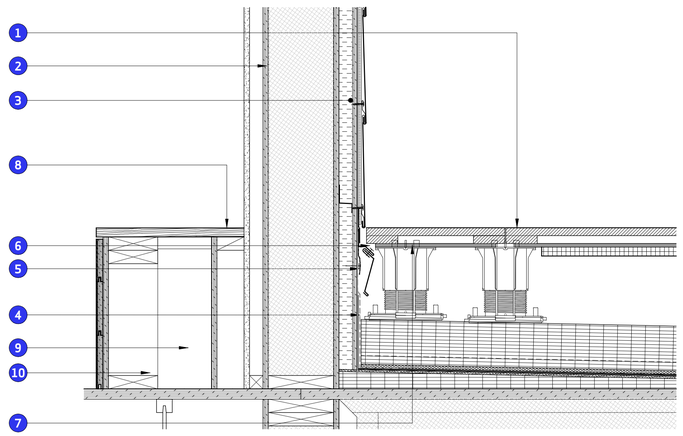
1. metal roof panel system - ref typical detail
2. Duravent 'DuraTech" type HT chimney sections and cap (w/ spark arrestor) and adjustable legs as req'd
3. Duravent adjustable roof flashing and storm collar
4. Duravent square support box w/ trim frame
5. Duravent collar @ connection to fireplace stovepipe
6. attic insulation shield
7. roof framing - ref structural
8. offset chimney sections within roof cavity as req'd to clear framing

NOTE: All chimney components and installation accessories to be supplied in matte black finish, typ u.n.o. Chimney to conform to UL 103 listing - maintain all req'd clearances to combustible material.

1
CHIMNEY @ ROOF PENETRATION
1-1/2"=1'-0"

7

5

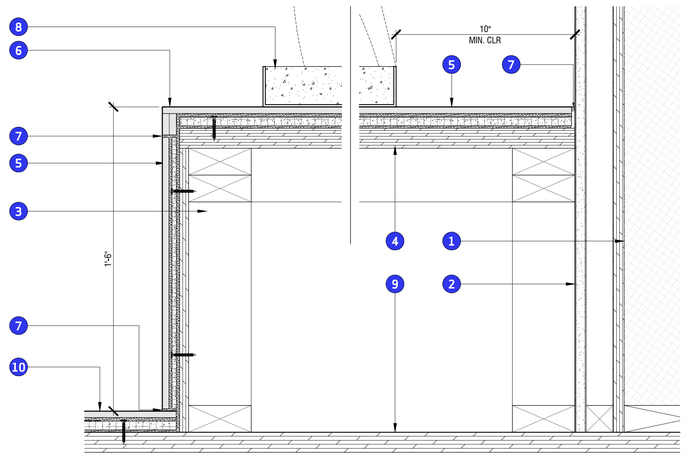


KEYED NOTES

1. wood paver system: wood tiles o/ snow-melt o/ adjustable paver pedestals o/ rigid foam insulation o/ drainage mat o/ waterproof roofing membrane o/ 1/4" coverboard o/ sloped rigid foam insulation (1/4" per 12", typ) o/ plywood sheathing - ref struct
2. wood framing - ref struct
3. metal cladding assembly - ref typical detail
4. waterproof roofing membrane - lap up wall sheathing to min 4" above roofing high point
5. termination bar and flexible flashing tape
6. two-piece stainless steel counterflashing and receptor w/ sstl fasteners; provide flexible flashing tape o/ leg of flashing
7. modify pedestals and tiles at perimeter to accommodate layout and wall geometry
8. hardwood trim to align with step beyond
9. wood framing at partial height wall
10. wood flooring planks

8

6
SHEAR WALL BASE AT TERRACE
1-1/2"=1'-0"



KEYED NOTES

1. wood framing / sheathing - ref struct
2. furred wall - ref plan for type
3. 2x framing to support finish and fireplace
4. 1-1/8" plywood sheathing - align w/ sheathing beyond at windows/ terrace steps
5. tile o/ thinset o/ cleavage membrane o/ c.b.u (1/2" at horiz; 1/4" at vert) o/ leveling bed o/ plywood sheathing
6. pre-fabricated tile tread full width of 'plinth' w/ integral nosing - finish face of 'plinth' flush w/ face of nosing, typ
7. sanded sealant joint - color to match grout
8. fireplace base w/ refractory - customized by manufacturer for direct set to 'plinth'
9. floor framing - ref struct
10. hearth - ref plan for dims; ref typ tile o/ Warmboard detail

NOTE: Fireplace installation to be done in strict conformance with manufacturer's installation requirements for clearances and sequencing; refer also to related details at stovepipe and chimney. Fireplace to be UL 737 listed and installed in per applicable Building Code requirements.

3
FIREPLACE PLINTH, HEARTH, AND REFRACTORY
3"=1'-0"

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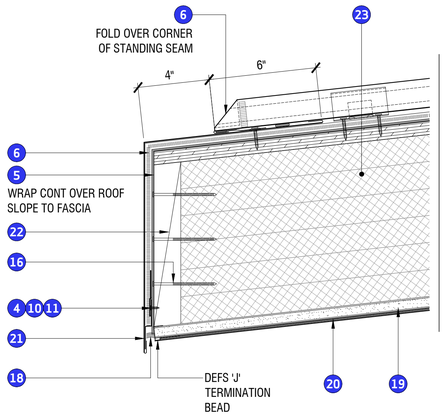
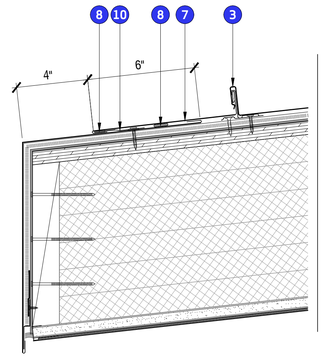


8 - REF DTL 9/- FOR TYPICAL NOTES AND DIMENSIONS

TYPICAL RAKE/EAVE (perpendicular to seams)

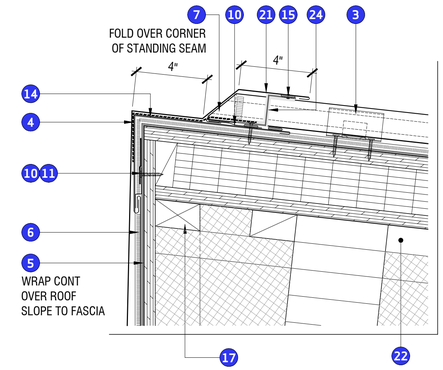
3" = 1'-0"



7 - REF DTL 8 & 9/- FOR TYPICAL NOTES AND DIMENSIONS

TYPICAL RAKE/EAVE (parallel to seams)

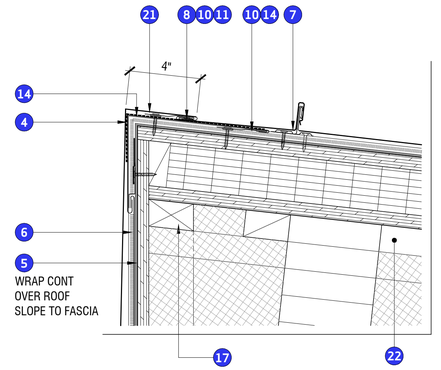
3" = 1'-0"



4 - REF DTL 9/- FOR TYPICAL NOTES AND DIMENSIONS

HIGH EAVE/RAKE (perpendicular to seams)

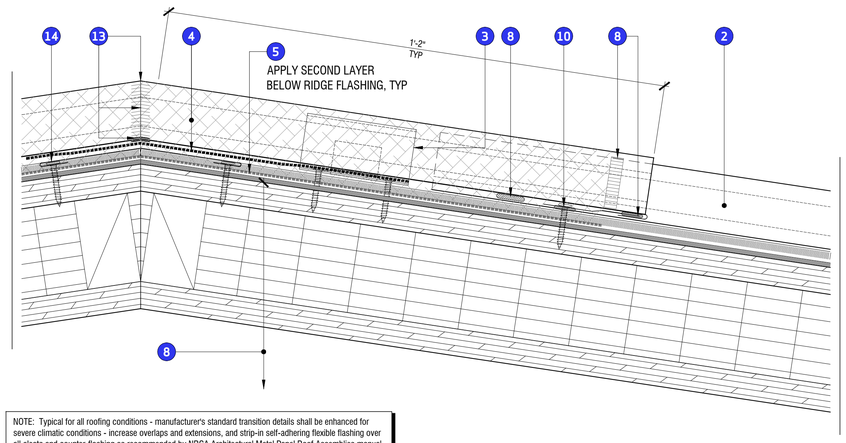
3" = 1'-0"



1 - REF DTL 4 & 9/- FOR TYPICAL NOTES AND DIMENSIONS

HIGH EAVE/RAKE (parallel to seams)

3" = 1'-0"

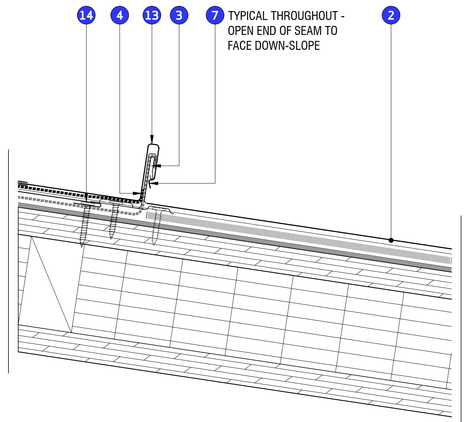


NOTE: Typical for all roofing conditions - manufacturer's standard transition details shall be enhanced for severe climatic conditions - increase overlaps and extensions, and strip-in self-adhering flexible flashing over all cleats and counter-flashing as recommended by NRCA Architectural Metal Panel Roof Assemblies manual.

9 - REF DTL 9/- FOR TYPICAL NOTES AND DIMENSIONS

TYP METAL ROOF RIDGE (perpendicular to seams)

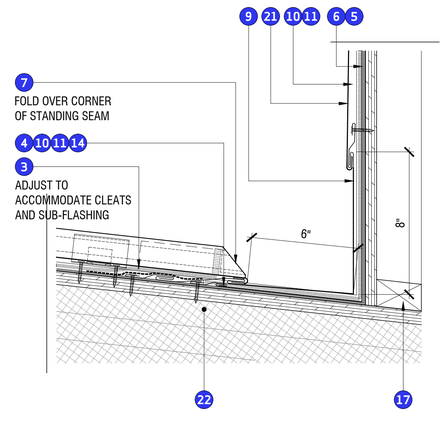
6" = 1'-0"



5 - REF DTL 9/- FOR TYPICAL NOTES AND DIMENSIONS

TYP METAL ROOF RIDGE (parallel to seams)

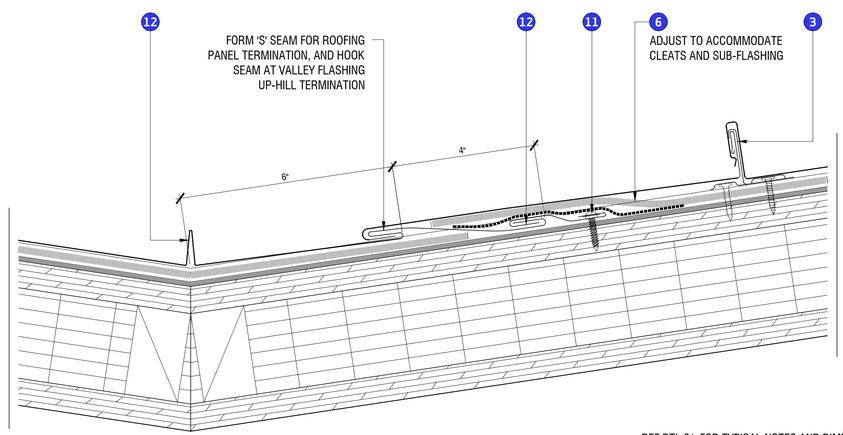
6" = 1'-0"



2 - REF DTL 9/- FOR TYPICAL NOTES AND DIMENSIONS

SIDEWALL VALLEY (perpendicular to seams)

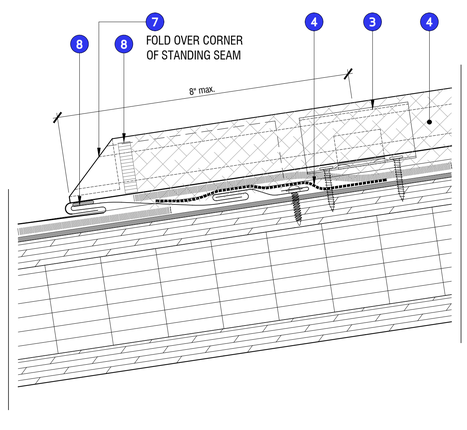
3" = 1'-0"



10 - REF DTL 9/- FOR TYPICAL NOTES AND DIMENSIONS

TYP METAL ROOF VALLEY (parallel to seams)

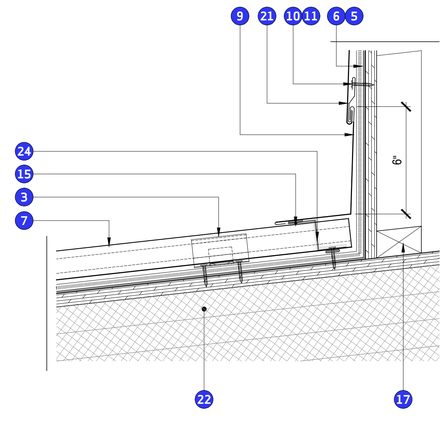
6" = 1'-0"



6 - REF DTL 9 AND 10/- FOR TYPICAL NOTES AND DIMENSIONS

TYP METAL ROOF VALLEY (perpendicular to seams)

6" = 1'-0"



3 - REF DTL 9/- FOR TYPICAL NOTES AND DIMENSIONS

HIGH ROOF TO OVERHANG (parallel to seams)

3" = 1'-0"

ROOFING DETAIL KEYNOTES

NOTE: Refer to specifications for additional detail and manufacturers; all products are to be installed in accordance with manufacturer's requirements, and in compliance with applicable industry guidelines including NRCA and SMACNA.

i. General Note: Prior to installation, review layout and center seam between ridge and valley to minimize occurrence of a seam near ridges and valleys.

1. ROOF FRAMING ASSEMBLY:
   - 3/4" Exterior grade plywood (fire-treated, where required) o/
   - Rigid insulation - ref specifications; w/ 2x3 wood sleepers o/
   - Plywood roof sheathing - ref structural dwgs o/
   - Roof framing - ref structural dwgs; w/ spray-applied polyurethane insulation - ref specifications.

2. METAL ROOFING ASSEMBLY:
   - Standing seam metal panel
   - Breathable underlayment
   - Self-adhering rubberized waterproof membrane

3. Standing seam clip w/ sstl fasteners
4. Flexible self-adhering flashing tape - compatible with waterproof membrane and all adjoining materials; width as req'd for lap shown
5. Self-adhering rubberized waterproof membrane
6. Breathable underlayment
7. Standing seam metal panel
8. Non-curing butyl sealant/tape
9. Rakewall flashing - 24ga min. to match metal roofing panel, typ.
10. Cleat - 20ga min. stainless steel w/ isolation membrane where adjoining dissimilar metals; provide joggles, hook seams, and hems as req'd.
11. Stainless steel fastener
12. Custom valley flashing to match metal roofing panel
13. Custom ridge flashing: fabricate from segments of standard metal roofing panel - tightly miter joints and fully solder all seams prior to installation
14. Stainless steel sub-flashing/counter flashing - form as req'd; fasten as indicated and install flexible flashing tape.
15. 'Zee' flashing - form to match profile and finish of metal roofing panels; install w/ rivet connections and butyl tape along full length of flashing, typ
16. Ringshank nails - ref structural
17. Wood framing/sleepers
18. Backer rod and tooled sealant joint
19. Exterior-grade fiberglass mat-faced gypsum board
20. Direct-applied exterior finish system (DEFS); provide all req'd trim
21. Brake-formed metal flashing - profile as indicated; form w/ termination seams and hemmed drip edge
22. Wood framing - ref structural dwgs
23. Continuous insulation to fill framing cavity
24. Continuous bead of sealant, beyond.

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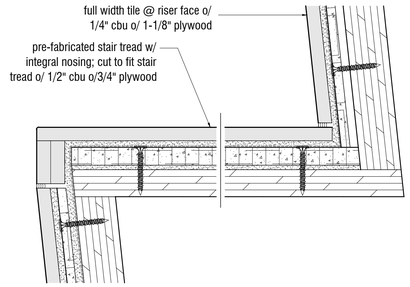
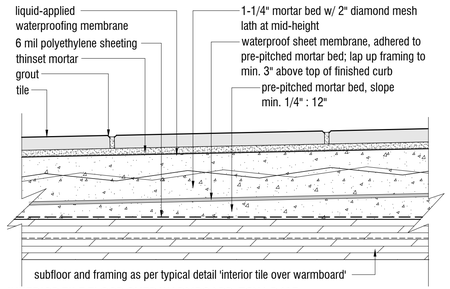


TILE OVER WOOD STAIR: TCNA ASSEMBLY F144

ASSEMBLY	PRODUCT (MFR: 'MAPEI', UNO)
1. GROUT:	Ultracolor Plus FA
2. TILE SETTING:	Granirapid System, or Kerabond T w/ Keralastic
3. CLEAVAGE MEMBRANE:	Mapelastic
4. BACKER BOARD:	USG 'Durock' 1/4" and 1/2" (as noted)
5. BOND COAT:	4 to 1 Mortar Bed Mix

Note: provide elastomeric grout joints (soft joints) as per TCNA EJ-171 at not less than 25' o.c., ea. direction and at all changes in floor framing direction and support conditions (i.e. stair landings, etc.); elastomeric sealant to be sanded and provided in color to match grout

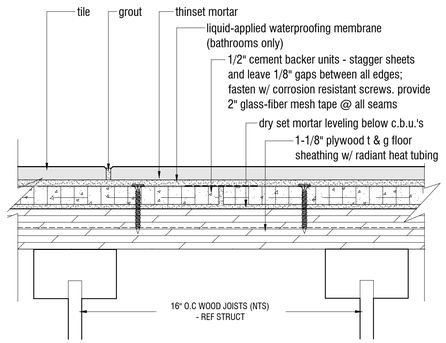
13
TILE @ WOOD STAIRS
6"=1'-0"



INTERIOR TILE FLOOR OVER WARMBOARD: TCNA B415

ASSEMBLY	PRODUCT (MFR: 'MAPEI', UNO)
1. GROUT:	Ultracare Plus SB
2. TILE SETTING:	Granirapid System, or Kerabond T w/ Keralastic
3. MEMBRANE:	Mapelastic Aqua-defense
4. MORTAR BED:	4 to 1 Mortar Bed Mix
5. WATERPROOF MEMBRANE:	'Noble Company' *NobleSeal CIS* w/ NobleSealant 150 to seam sheets, seal penetrations, drains, and terminal edges (seal preformed corners to sheet)
6. SEALANT/ADHESIVE:	'Noble Company' *NobleBond EXT* (wet areas)
7. PRE-PITCHED MORTAR BED:	Modified Mortar Bed Mix

14
INTERIOR TILE AT SHOWER FLOOR
6"=1'-0"

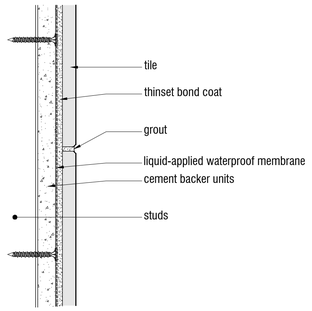


INTERIOR TILE FLOOR OVER WARMBOARD: F144

ASSEMBLY	PRODUCT (MRF: 'MAPEI', UNO)
1. GROUT:	Ultracolor Plus FA
2. TILE SETTING/LEVELING:	Granirapid System, or Kerabond T w/ Keralastic
3. MEMBRANE (WHERE OCCURS):	Mapelastic Aqua-defense (at bathrooms only)
4. CEMENT BACKER UNIT:	'USG' Durock cement board 1/2"

Note: provide elastomeric grout joints (soft joints) as per TCNA EJ-171 at not less than 25' o.c. ea. direction and at all changes in floor framing direction and support conditions (i.e. stair landings, etc.); elastomeric sealant to be sanded and provided in color to match grout.

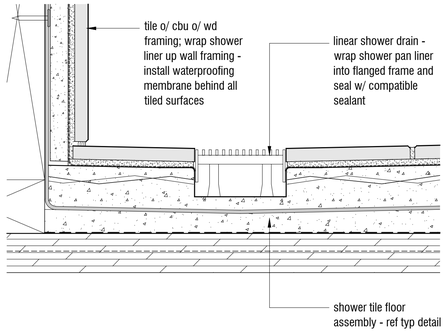
15
INTERIOR TILE FLOORING o/ WARMBOARD (THINSET)
6"=1'-0"



INTERIOR WALLS OVER WOOD OR METAL STUDS / MAPEI DETAIL MW244C, TCNA #W244C

ASSEMBLY	PRODUCT (MFR: 'MAPEI', UNO)
1. GROUT:	OPTICOLOR STAIN-FREE GROUT
2. BOND COAT:	KERABOND/KERALASTIC SYSTEM
3. MEMBRANE (WHERE OCCURS):	MAPELASTIC AQUA-DEFENSE
4. CEMENT BACKER UNIT	'USG' DUROCK 1/2" CEMENT BOARD

10
INTERIOR TILE OVER FRAMING
6"=1'-0"

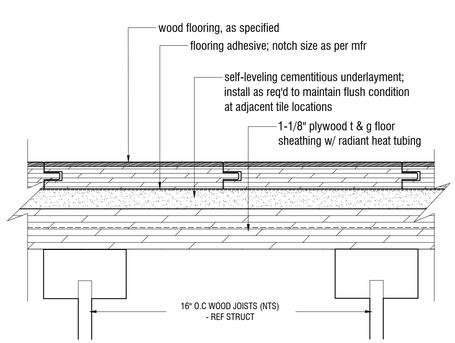


INTERIOR WOOD FLOOR OVER WARMBOARD (glue down install)

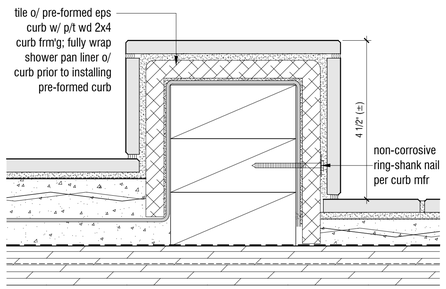
ASSEMBLY	PRODUCT
1. ADHESIVE:	Mapei Ultrabond Eco 975 and 980
2. SELF-LEVELING COMPOUND	Ardex K 15

Note: install in accordance with Warmboard product installation requirements, and in accordance with National Wood Flooring Association Installation Guidelines, current edition.

12
INTERIOR WOOD FLOORING OVER WARMBOARD
6"=1'-0"

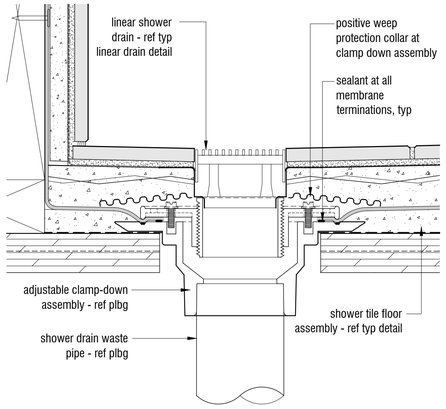


11
LINEAR DRAIN - TYPICAL ASSEMBLY
6"=1'-0"



notes:
1. install all items as per mfr's instructions
2. when membrane is flashed behind the backer board, mechanical fasteners can only be used in the top 1" of the flashed membrane, and must occur above the level of the finished curb/dam; wrap membrane up framing min. 3" above top of finished curb
3. membrane should be bonded to or flashed over the dam and fastened on the outside of the dam. there should be no penetrations on the inside or top of the dam
4. provide preformed inside and outside corners at curb/dam
5. substrate must comply with industry guidelines
6. shower receptors, curbs, soap niches, seats, etc. must be properly waterproofed and installed to avoid water damage to adjacent building materials. install as per TCNA guidelines - ref. TCNA B415 & 'Common Shower Configurations'

7
TILE CURB AT SHOWER
6"=1'-0"

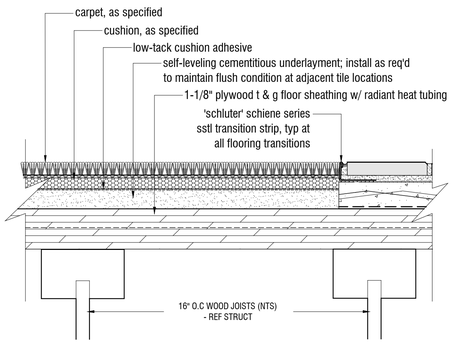


INTERIOR WOOD FLOOR OVER WARMBOARD (glue down install)

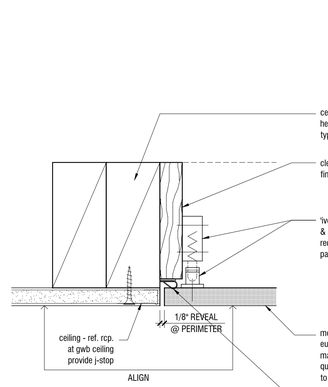
ASSEMBLY	PRODUCT
1. ADHESIVE:	Mapei Ultrabond Eco 20 or 85
2. SELF-LEVELING COMPOUND	Ardex K 15

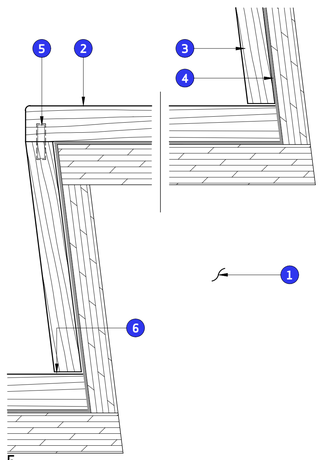
Note: install in accordance with Warmboard product installation requirements, and in accordance with Carpet and Rug Institute Installation Guidelines, current edition.

9
INTERIOR CARPET FLOORING OVER WARMBOARD
6"=1'-0"



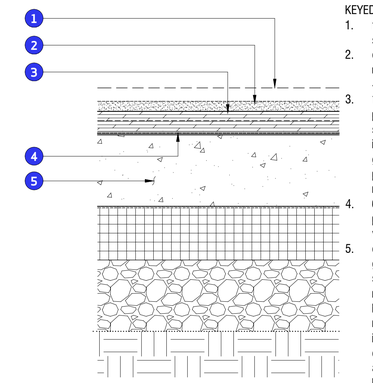
4
ACCESS PANEL
6"=1'-0"





KEYED NOTES
1. LVL stair stringer w/ 1-1/8" plywood treads and 3/4" plywood risers
2. 5/4" hardwood tread to match wood flooring; provide 1/8" radius eased edge @ nosing - continuous full length/width of tread
3. 3/4" hardwood to match wood flooring @ riser - continuous full length/height of riser
4. polyurethane adhesive, typical
5. dowels, spline, or other mechanical fasteners
6. open joint @ riser to tread +1/32" to -1/16", typical

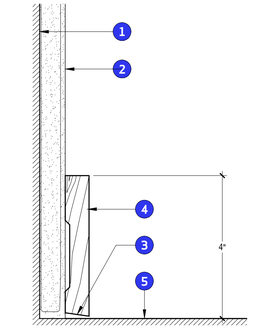
5
WOOD TREADS/RISERS @ STAIRS
6"=1'-0"



KEYED NOTES
1. floor finish, as scheduled
2. cementitious underlayment - if req'd
3. 1-1/8" t & g plywood sheathing w/ integral grooves for poly tubing radiant heating
4. 6 mil polyethylene vapor barrier
5. conc slab on grade - ref struct; o/ 15 mil vapor barrier o/ 3" rigid foam insulation o/ compacted aggregate base course o/ subgrade

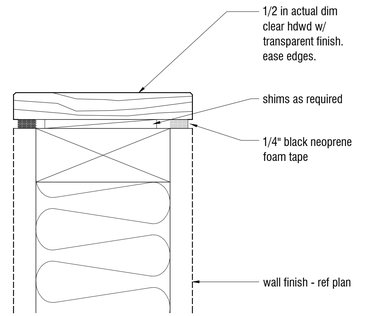
6
TYPICAL WARMBOARD OVER SLAB ON GRADE SECTION
3"=1'-0"

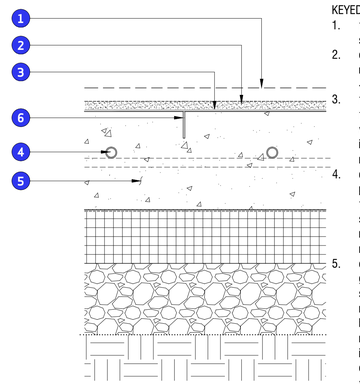
1
WALL BASE @ GYPSUM WALL BOARD
6"=1'-0"



KEYED NOTES
1. wall - ref. plan.
2. gypsum wall board w/ manufactured tapered edge at bottom. level 4 finish, painted.
3. back bevel bottom edge of base and cope to flooring, typ
4. clear hardwood base (no knots) with pigmented lacquer finish in color to match wall.
5. floor finish as scheduled.

2
WOOD WALL CAP
6"=1'-0"





KEYED NOTES
1. floor finish, as scheduled
2. cementitious underlayment - if req'd
3. topical, fluid-applied vapor barrier, if req'd per moisture test
4. embedded poly radiant tubing tied to slab reinforcing - ref mech
5. conc slab on grade - ref struct; o/ 15 mil vapor barrier o/ 3" rigid foam insulation o/ compacted aggregate base course o/ subgrade
6. slab control joint - ref struct

3
FLOOR FINISH OVER RADIANT SLAB ON GRADE
3"=1'-0"

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sma project no.
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sma project name
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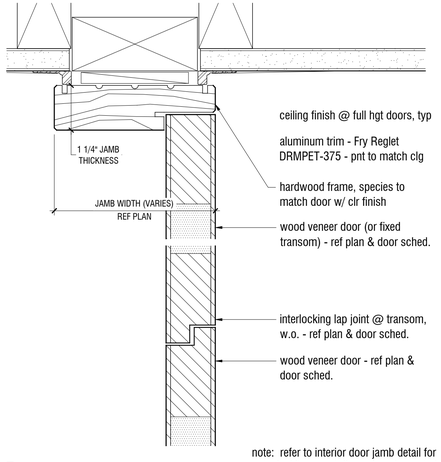
STATE OF UTAH
DANIEL HOFFMAN
No. 7820867-0301
June 1, 2017
LICENSED ARCHITECT

A5.10
INTERIOR DETAILS

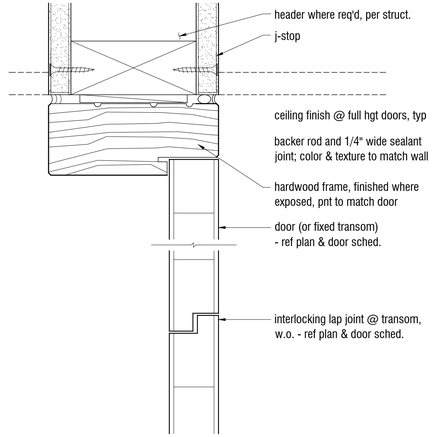
AS NOTED
scale

PERMIT SET
phase / rev

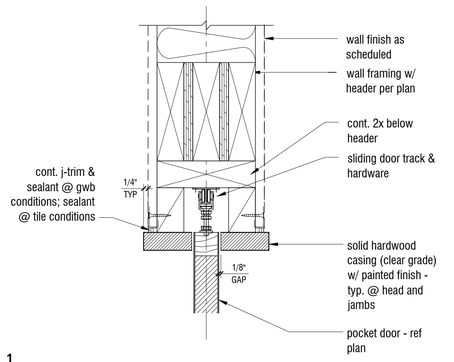
2017.06.01
date



7
INTERIOR WOOD DOOR - FLUSH HEAD CONDITION
6"=1'-0"



4
INTERIOR DOOR HEAD
6"=1'-0"



1
POCKET DOOR / HEAD
3"=1'-0"

8
INTERIOR WOOD DOOR - FLUSH JAMB
6"=1'-0"

5
INTERIOR DOOR / JAMB @ GWB (HEAD SIM.)
6"=1'-0"

2
POCKET DOOR / JAMB
3"=1'-0"

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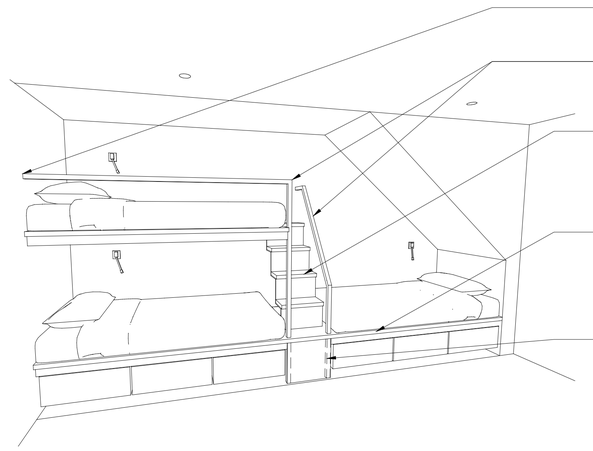
STATE OF UTAH
DANIEL HOFFMAN
No. 7829867-0301
June 1, 2017
REGISTERED ARCHITECT

A5.11
INTERIOR DETAILS

AS NOTED
scale

PERMIT SET
phase / rev

2017.06.01
date



provide solid blocking in wall w/ concealed stl angle extension into open end of hss; affix hss w/ cntrsnk sds into angle, typ @ sim conditions

tube steel framing - nominal 2x2x3/16 hss, typical; miter all joints, fully weld, fill and grind smooth to AESS standards. prime and paint all components- color to be selected by architect

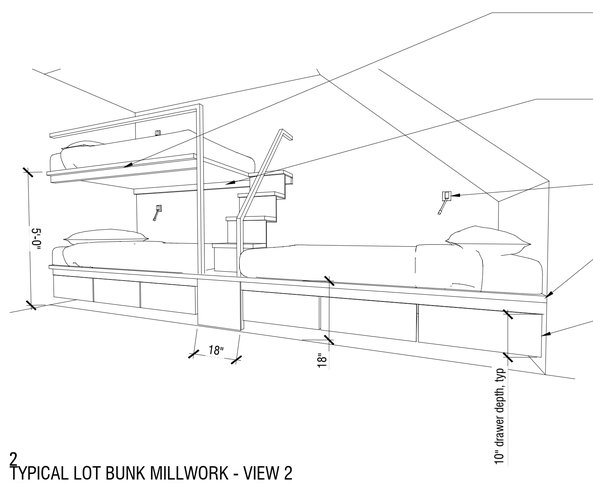
hardwood treads 1-1/2" thk x 18"w x (±)8"d. species to match wood floor; ease all edges. affix to folded stl plate 3/8"thk w/ profile to include 1" nosing. provide bolted connection to stl support at top and concealed fastening to platform at bottom. paint stl plate to match stl framing

1-1/8"thk veneer plywood (species to match wood flooring) w/ 1-1/2"thk solid hardwood edge banding at outer face to match veneer. affix to frame from below - see detail 3/-

ptd stl plate welded o/ extension of stl framing below platform

NOTE: Bunk millwork at lots 124 and 133 is similar; ref floor plans for unique conditions. Bunks in lots 124 and 133 are stacked 2-high, unless noted otherwise

1
TYPICAL LOT BUNK MILLWORK - VIEW 1
NTS



steel angle framing - nominal 2x2x3/16, typical; miter all joints, fully weld, fill and grind smooth to AESS standards. provide concealed connection @ wall, typical. prime and paint all components- color to be selected by architect

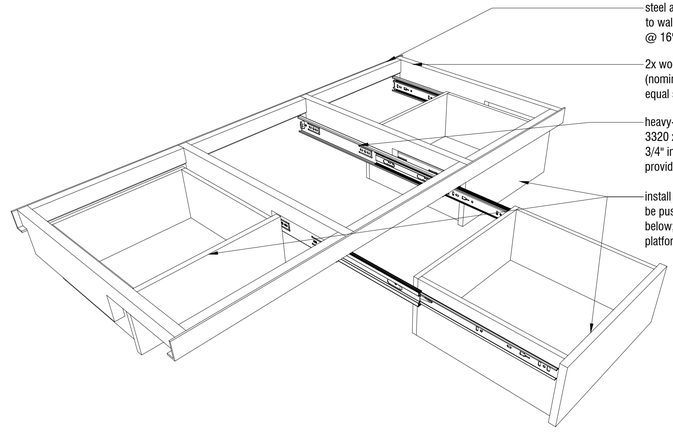
support platform w/ 2x wood nailers on stl angles; fasten platform to framing from below; ensure all wood nailers are paint grade, free of wanes/checks/ knots/ and other defects, and paint to match stl framing, typical

wall sconce light fixture - ref elec and architectural reflected ceiling plan; see interior elevations for mounting height, typ

platform framing spans full length of space; align outer face of platform w/ face of wall/guardrail

paint-grade hardwood drawer fronts (color to match stl framing) o/ hardwood drawer box w/ dovetailed corners and 3/8"thk (min.) MDO plywood bottom in rabbeted slot in drawer sides, typ as shown; provide w/ heavy-duty full extension drawer guides

2
TYPICAL LOT BUNK MILLWORK - VIEW 2
NTS



steel angle framing - nominal 2x2x3/16, typical; affix to wall w/ lag bolts to solid backing in wall framing @ 16" o.c.

2x wood nailers on stl angles; span drawer supports (nominal 2x8) between angles; provide three (3) equal spaces per bunk

heavy-duty drawer guides equivalent to Hettich KA 3320 x 28" length full extension ball bearing slide w/ 3/4" installation width, load capacity 300-500lbs. provide in mfr's optional black powder coated finish

install guides at back of platform to allow drawers to be pushed past face of platform for luggage storage below; provide means to align drawer front at face of platform and pull/push past

3
BUNK MILLWORK - PLATFORM BASE FRAMING @ STORAGE
NTS

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No. 7829867-0301
June 1, 2017
LICENSED ARCHITECT

A5.12
MILLWORK DETAILS

AS NOTED
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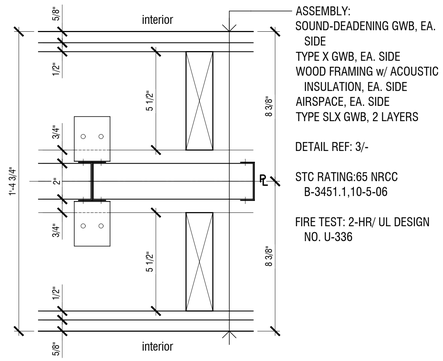
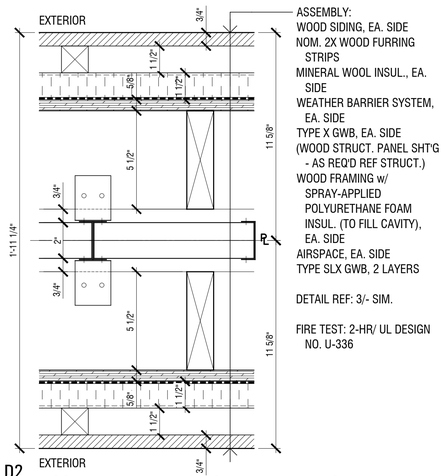
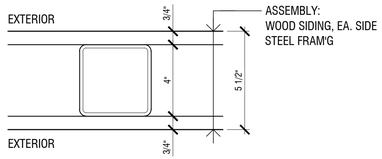
date



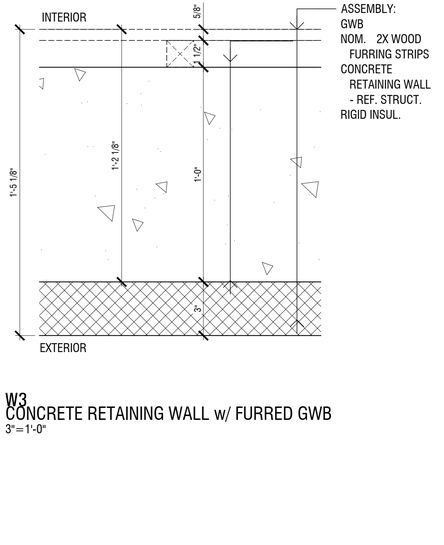
D1
TYPICAL WOOD FRAMED DEMISING WALL / INTERIOR
3"=1'-0"



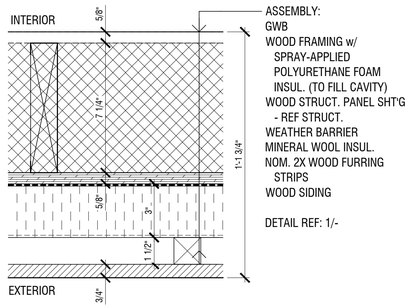
D2
TYP WOOD FRAMED DEMISING WALL / EXT, INSULATED
3"=1'-0"



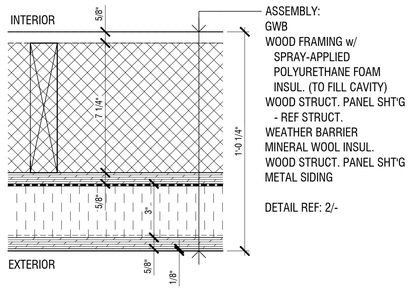
D3
TYPICAL TERRACE SCREEN WALL
3"=1'-0"



D4
TYP WOOD FRAMED DEMISING WALL / EXT, UNINSULATED
3"=1'-0"

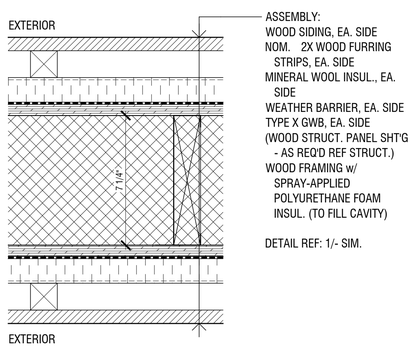


W1
TYPICAL EXTERIOR WALL w/ WOOD SIDING
3"=1'-0"

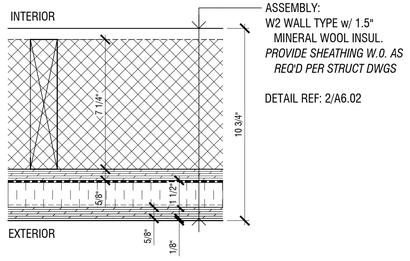


W2
TYPICAL EXTERIOR WALL w/ METAL SIDING
3"=1'-0"

W3
CONCRETE RETAINING WALL w/ FURRED GWB
3"=1'-0"



W4
EXTERIOR WALL @ SNOW ENTRY
3"=1'-0"



W5
EXTERIOR WALL @ WINDOW
3"=1'-0"

COMMENTS

A. Refer to code analysis for wall fire rating and separation requirements.

B. Refer to code analysis for wall thermal envelope requirements.

GENERAL NOTES

1. UL / IBC design note: Refer to framing details, project specifications, and code analysis for detailed UL firestopping and fire resistant assembly design details
2. All walls w/tile shall have 20 ga studs min. u.n.o.
3. All gwb at walls w/tile or at walls w/plbg fixtures shall be glass fiber mat faced gwb and shall maintain required fire rating, where applicable.
4. Provide sound attenuation batts (bearing UL rating at rated walls) at all rated walls, walls separating units from each other or from public/service areas, and at all bathroom walls - typ, uno.

   Refer to **General Notes for Acoustically Rated Walls** for detailed information including requirements for installation of resilient channels, caulking, electrical outlets, and penetrations.
5. Contractor shall coordinate wall layout to ensure face of substrate alignment where different wall types are shown as co-planar.
6. Provide backing at all wall mounted fixtures, accessibility elements, millwork, equipment, and accessories for current and future (ie - adaptable) installations. where required by accessibility codes such backing must provide the structural strength as required by ADAAG.

FRAMING NOTES

1. Refer to floor plans for wall tags, typ. Where no wall type is indicated it shall be similar to the adjacent wall type.
2. Refer to framing details for typical framing requirements and dimensions. All framing shall conform to framing details unless otherwise noted.
3. Refer to structural drawings for load bearing stud framing requirements. intersections between load bearing framing and non-structural framed partitions shall be flush and shall remain true, plumb, and level. required ratings to be maintained.
4. All recessed wall mounted equipment shall be framed with double studs at jambs per framing details, typical, u.n.o.
5. Contractor shall notify Architect prior to installing wall finish to review backing locations, typical throughout.
6. All duct openings shall be framed per sill framing requirements - refer to typical partition elevation and interior framing schedule.

WALL TYPE LEGEND

A	rated partition
B	full-height partition
D	demising wall
F	furred wall
S	shear wall
W	exterior wall

ABBREVIATIONS

1s	one side
2s	two sides
CBU	cementitious backer units
CL	centerline
CLG	ceiling
DIA	diameter
(E), (e)	existing
EXT	exterior
FT, F-T	fire-treated
GA	gauge
GWB, GYP BD	gypsum wall board
NC, N-C	non-combustible
NR	non-rated
OC, O.C.	on center
O/, o/	over
PTD	painted
REF	refer, reference
SAFB	sound attenuation fire blanket
SHT'G	sheathing
TYP	typical
UNO, U.N.O.	unless noted otherwise
WO, W.O.	where occurs

GENERAL NOTES FOR ACOUSTICALLY RATED WALLS

ELECTRICAL OUTLET/RECEPTACLE IN DRYWALL:

In a single stud wall, there shall be a separation of 24" between centerlines of outlet boxes or receptacles set into opposite sides of the wall. When these boxes are of dimensions exceeding 4" wide, this dimension (24") shall be clear between the side walls, providing a full 24" separation regardless of the box size. Conduit connecting such boxes shall be flexible and shall provide 6" slack per 24" of run.

In a double stud wall, boxes in opposite sides of the wall shall be located 24" on center, minimum. Effectively, this means that boxes on the same side of the wall will be 48" apart if there is a box between them on the other side of the wall. Conduit, in the case of a double wall, shall home run to a point outside of the partition before connecting to cable and conduit connecting boxes on the other side. Conduit, which shall be flexible, may thread through the studs on its own side but shall under no circumstances interface with the stud on the other side of the wall.

The boxes shall be treated to reduce sound transmission. All unused knock-out holes shall be plugged with knock-out caps. The openings or cutouts in the walls to receive the boxes/receptacles shall be made no more than 1/4" oversize to allow a 1/8" gap all around. The flanges shall be perimeter sealed with acoustical caulking, prior to the boxes/receptacles being inserted.

An outlet box pad, which acts to increase mass and provide damping, shall be applied to the backs of boxes or where the box is installed in a partition rated with an STC>49. Where the box is installed in a partition rated at STC>56, the boxes/receptacles shall be boxed in from the rear on all five sides with two layers of gypsum board.

PENETRATIONS OF DRYWALL CONSTRUCTIONS:

The Contractor shall ensure that the sound control performance of structures be maintained in accordance with the drawings and specifications. All penetrations shall be installed in a manner that results in complete air tightness through structure. If a condition occurs where penetration of the structure by a duct, pipe, conduit, etc., is not shown clearly on the drawings (or described in the specifications), the Contractor shall ask immediately for clarification of the method necessary to install the particular item.

The following shall apply to all penetrations in walls requiring a sound transmission class (STC) 49 or greater. For penetrations of ducts, pipes, conduit, etc., with minimum dimension or diameter exceeding 3", the gypsum board layers shall be framed around the penetration allowing for a 1" annular gap. The length of the duct or pipe or conduit that penetrates the construction shall be wrapped with 1" thick, 3 lb/ft3 density glass or mineral fiber. This shall be held in place at either end by a 1-1/4" diameter or 1-1/4" square polyethylene or neoprene closed cell sponge backing rod. A total of 4 beads of acoustical caulking (2 at each end) shall be applied continuously around the penetration as shown in the drawings.

When more than one duct (etc.) passes through the construction, or when the duct (etc.) penetration is close to another wall, ceiling or floor construction, a minimum distance of 5" shall separate the duct wall from the adjacent duct wall or 4" between the duct wall and the adjacent wall/floor/ceiling. This shall be to allow the insertion of two back-to-back framing runners to ensure the strength and the acoustical packing of the gypsum board construction separating the two items.

For penetrations of pipes, conduit, etc., with maximum dimension or diameter less than 3", the hole in the wall need not be framed out. Pipes/conduits sized in the range 1" to 3" diameter shall be packed with glass or mineral fiber, held in place with backing rod and caulked as indicated above for larger size penetrations.

Pipes/conduits with diameters up to 1" may be fitted with 1-1/2" wide x 3/4" thick (compressed to 1/2") closed cell, sponge neoprene collars as they penetrate each side of the wall (refer to fireproofing details sheet a0.15 for rated conditions).

The following pipe penetration systems are acceptable, subject to the above:

Split Acoustical Wall Seals SWS, and Spool-Type Acoustical Pipe Seals SPS, from Mason Industries, Inc., Hauppage, NY, and Anaheim, CA, or approved equal.

ELECTRICAL OUTLET BOX PAD:

Electrical Outlet Box Pads shall be applied where called out on the drawings or specifications. Its function is to seal box openings, increase mass and provide damping to reduce air-transmitted sound through party walls. It shall consist of polybutene-butyl and inert fillers. Material shall provide good adhesion to metal and plastic. Pads shall be applied to the backs of installed electrical boxes, molded to box and folded around conduit cable entering the box. Pads shall not be used in areas subject to temperatures above 200° F.

The following are acceptable, subject to the above:

Lowry's Outlet Box Pads from Harry A. Lowry & Associates, Inc., Sun Valley, CA, 800-225-8231.

SpecSeal Firestop Putty Pads (fire-rated) from Specified Technologies,Inc., Somerville, NJ, 800-992-1180, or approved equal.

ACOUSTICAL CAULKING:

Acoustical caulking shall be applied in continuous beads. The material shall be resilient and non-setting.

The following are acceptable:

Acoustical Sealant, U.S. Gypsum, Chicago, IL

Acoustical Sealant, The Tremco Manufacturing Company, Cleveland, OH

AS-10 Acoustical Sealant, Macco Adhesives, Wickliffe, OH

BA-97, BA-98 Acoustical Sealant, Pecora Chemical Corp., Harleysville, PA

#313 Sound Control Sealant, The W.W. Henry Company, Huntington Park, CA, or approved equal.

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STATE OF UTAH
DANIEL HOFFMAN
No. 7829867-0301
June 1, 2017
LICENSED ARCHITECT

A6.00
WALL SCHEDULE

AS NOTED
scale

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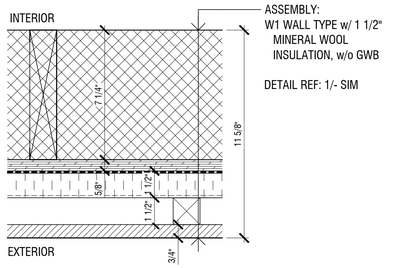
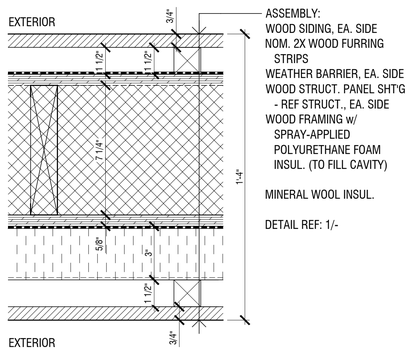
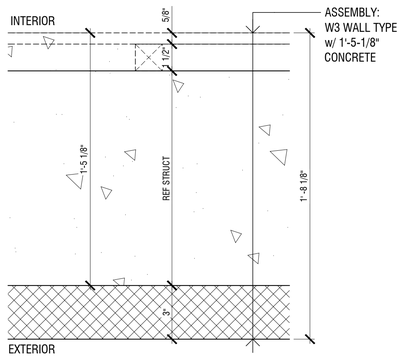


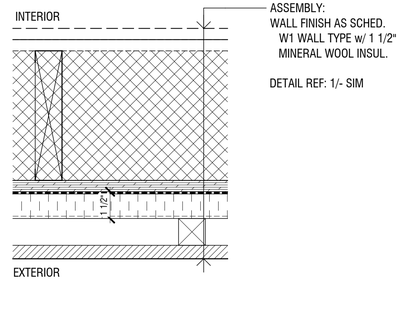
W6
EXTERIOR WALL @ KITCHEN (LOW)
3"=1'-0"



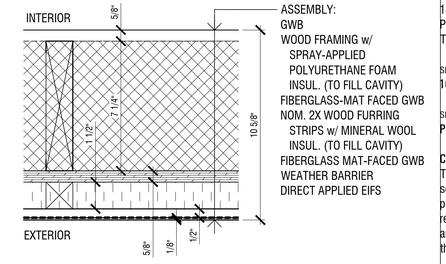
W7
TERRACE GUARDRAIL WALL
3"=1'-0"



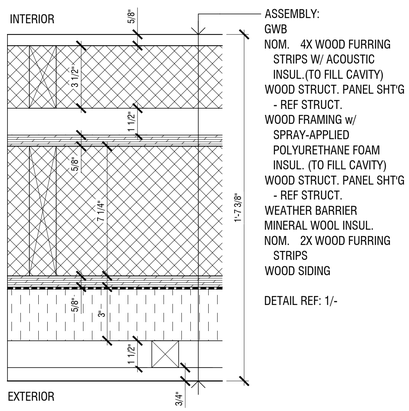
W8
18" CONCRETE RETAINING WALL w/ FURRED GWB
3"=1'-0"



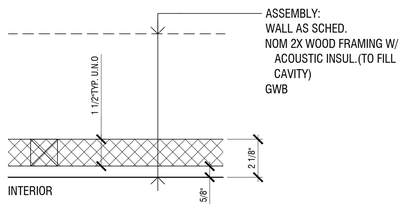
W9
EXTERIOR WALL w/ 3" RIGID INSULATION
3"=1'-0"



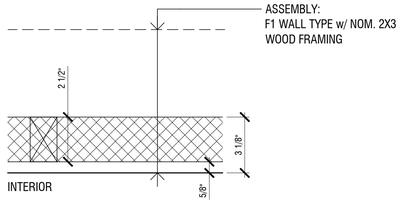
W10
EXTERIOR WALL WITH DIRECT-APPLIED EIFS
3"=1'-0"



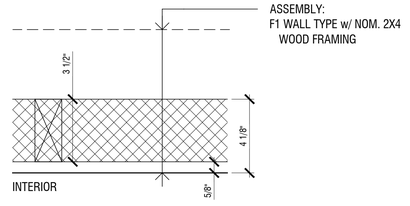
W11
EXTERIOR WALL WITH WOOD SIDING
3"=1'-0"



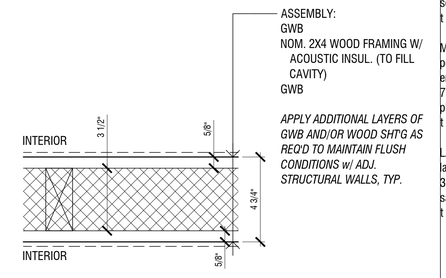
F1
INTERIOR FURRED WALL
3"=1'-0"



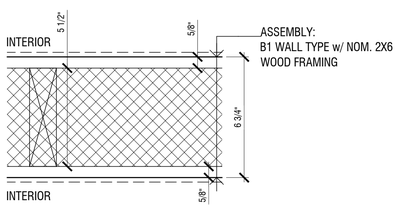
F2
INTERIOR FURRED WALL
3"=1'-0"



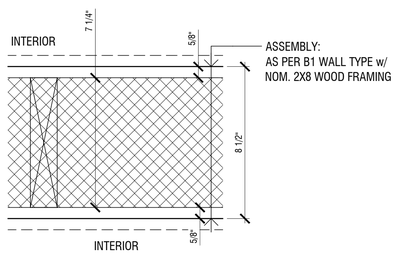
F3
INTERIOR FURRED WALL
3"=1'-0"



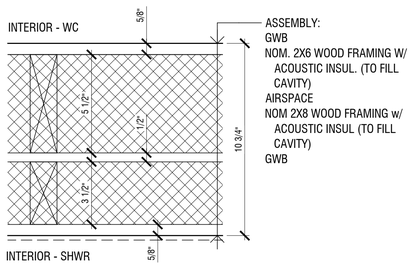
B1
TYPICAL INTERIOR WALL
3"=1'-0"



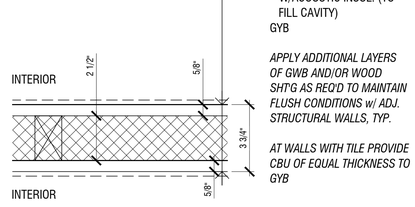
B2
TYPICAL INTERIOR WALL
3"=1'-0"



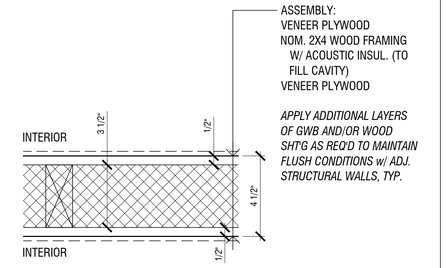
B3
INTERIOR WALL
3"=1'-0"



B4
INTERIOR WALL (@ RESTROOM)
3"=1'-0"



B5
TYPICAL INTERIOR WALL
3"=1'-0"



B6
TYPICAL INTERIOR WALL
3"=1'-0"

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WALL SCHEDULE

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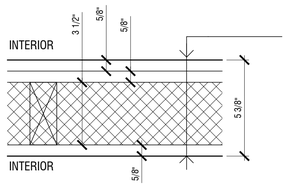
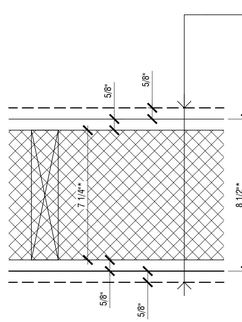


ASSEMBLY:
GWB, 2 LAYER
NOM 2X4 WOOD
FRAMING W/
ACOUSTIC INSUL.
(TO FILL CAVITY)
GWB

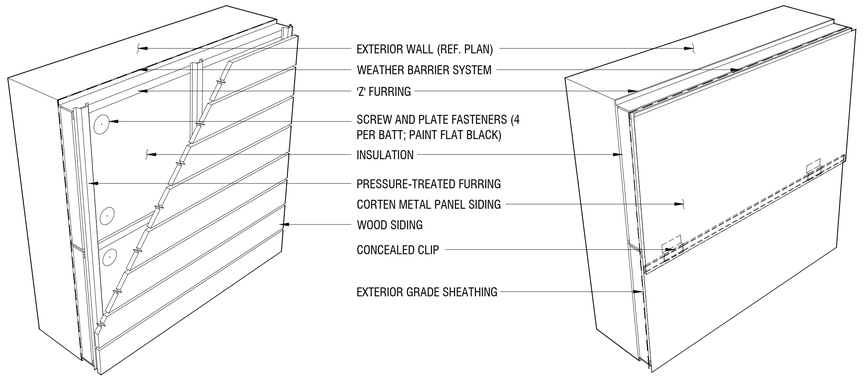
ACOUSTIC

A1
INTERIOR WALL (RATED)
3"=1'-0"



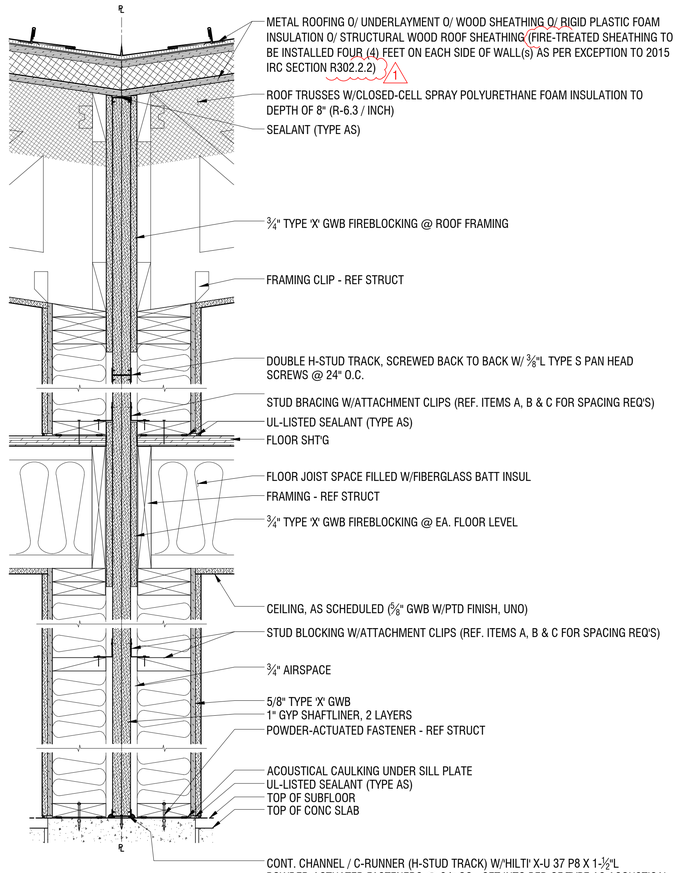
ASSEMBLY:
(GWB @ INTERIOR WALLS)
WOOD STRUCT. PANEL SHT'G
- REF STRUCT.
WOOD FRAMING
*REF. STRUCT. w/
ACOUSTIC INSUL. (TO FILL
CAVITY) @ INTERIOR,
SPRAY-APPLIED
POLYURETHANE FOAM
INSUL. (TO FILL CAVITY) @
EXTERIOR
(GWB @ INTERIOR WALLS)

S1
SHEAR WALL
3"=1'-0"



DETAIL 1
NOTE: HORIZONTAL SIDING SHOWN;
VERTICAL SIDING IS SIMILAR.

DETAIL 2



METAL ROOFING O/ UNDERLAYMENT O/ WOOD SHEATHING O/ RIGID PLASTIC FOAM INSULATION O/ STRUCTURAL WOOD ROOF SHEATHING (FIRE-TREATED SHEATHING TO BE INSTALLED FOUR (4) FEET ON EACH SIDE OF WALL(s) AS PER EXCEPTION TO 2015 IRC SECTION R302.2.2) 1

ROOF TRUSSES W/CLOSED-CELL SPRAY POLYURETHANE FOAM INSULATION TO DEPTH OF 8" (R-6.3 / INCH)

SEALANT (TYPE AS)

¾" TYPE 'X' GWB FIREBLOCKING @ ROOF FRAMING

FRAMING CLIP - REF STRUCT

DOUBLE H-STUD TRACK, SCREWED BACK TO BACK W/ ⅜"L TYPE S PAN HEAD SCREWS @ 24" O.C.

STUD BRACING W/ATTACHMENT CLIPS (REF. ITEMS A, B & C FOR SPACING REQ'S)

UL-LISTED SEALANT (TYPE AS)

FLOOR SHT'G

FLOOR JOIST SPACE FILLED W/FIBERGLASS BATT INSUL

FRAMING - REF STRUCT

¾" TYPE 'X' GWB FIREBLOCKING @ EA. FLOOR LEVEL

CEILING, AS SCHEDULED (⅝" GWB W/PTD FINISH, UNO)

STUD BLOCKING W/ATTACHMENT CLIPS (REF. ITEMS A, B & C FOR SPACING REQ'S)

¾" AIRSPACE

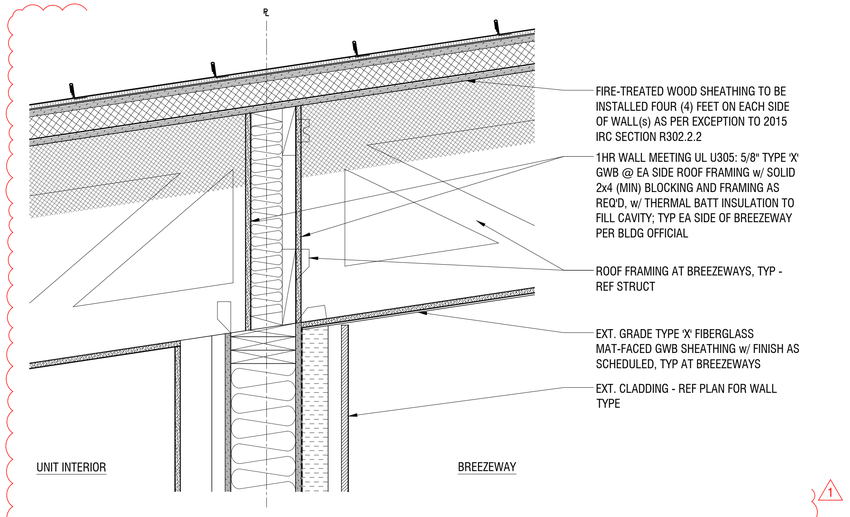
5/8" TYPE 'X' GWB
1" GYP SHAFTLINER, 2 LAYERS
POWDER-ACTUATED FASTENER - REF STRUCT

ACOUSTICAL CAULKING UNDER SILL PLATE
UL-LISTED SEALANT (TYPE AS)
TOP OF SUBFLOOR
TOP OF CONC SLAB

CONT. CHANNEL / C-RUNNER (H-STUD TRACK) W/'HILTI' X-U 37 P8 X 1-½"L POWDER-ACTUATED FASTENERS @ 24" OC - SET INTO BED OF TYPE AS ACOUSTICAL SEALANT ALONG EDGES OF TRACK

DETAIL 3

NOTE: ATTACH GYPSUM WALLBOARD TO METAL FRAMING USING 1-1/4" LONG BUGLE HEAD TYPE 'S' DRYWALL SCREWS @ 12" O.C. FASTENERS SHALL BE IN COMPLIANCE WITH ASTM C 1002.



FIRE-TREATED WOOD SHEATHING TO BE INSTALLED FOUR (4) FEET ON EACH SIDE OF WALL(s) AS PER EXCEPTION TO 2015 IRC SECTION R302.2.2

1HR WALL MEETING UL U305: 5/8" TYPE 'X' GWB @ EA SIDE ROOF FRAMING w/ SOLID 2x4 (MIN) BLOCKING AND FRAMING AS REQ'D, w/ THERMAL BATT INSULATION TO FILL CAVITY; TYP EA SIDE OF BREEZEWAY PER BLDG OFFICIAL

ROOF FRAMING AT BREEZEWAYS, TYP - REF STRUCT

EXT. GRADE TYPE 'X' FIBERGLASS MAT-FACED GWB SHEATHING w/ FINISH AS SCHEDULED, TYP AT BREEZEWAYS

EXT. CLADDING - REF PLAN FOR WALL TYPE

DETAIL 4 1

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June 30, 2017

A6.02
WALL SCHEDULE

AS NOTED
scale

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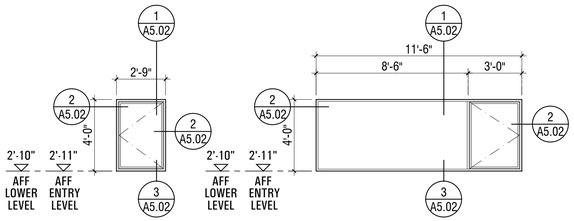
PERMIT SET
phase / rev

2017.06.30
date

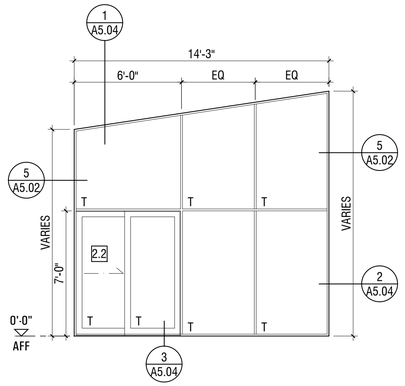
! NOTE !

Typical, non-mirrored, unit is shown. Mirrored typical units have opposite configuration, with opposite hinged/sliding setup. Refer to overall building plan, sheet a1.20 for mirrored/non-mirrored layout.

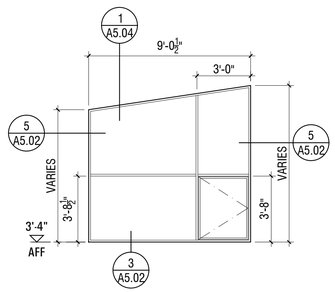


WW-A

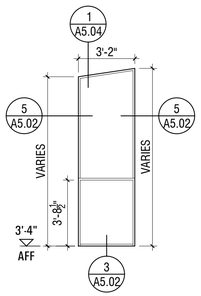
WW-B



WW-C
(w/ XO SLIDING DOOR)

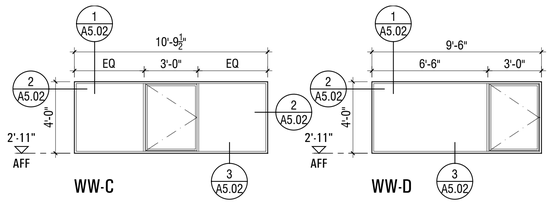


WW-D



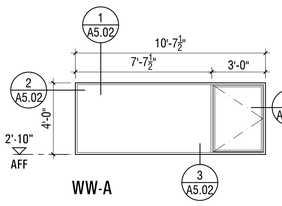
WW-E

WINDOW ELEVATIONS - TYPICAL UNIT

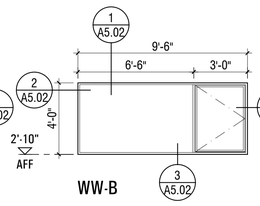


WW-C

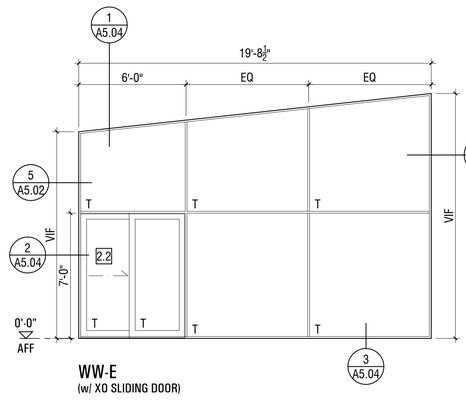
WW-D



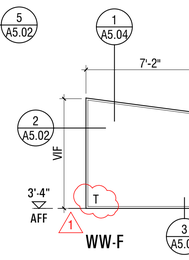
WW-A



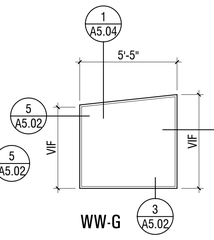
WW-B



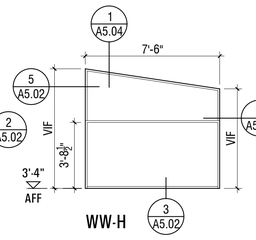
WW-E
(w/ XO SLIDING DOOR)



WW-F



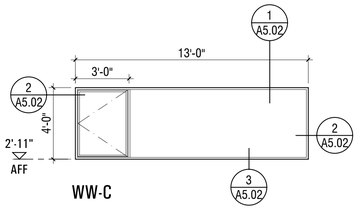
WW-G



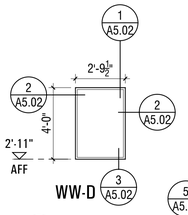
WW-H

WW-I

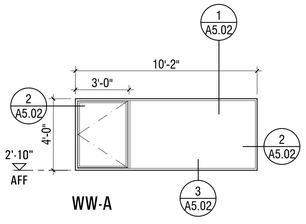
WINDOW ELEVATIONS - LOT 124



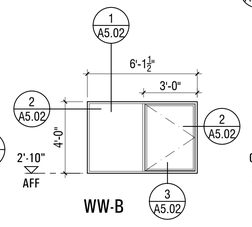
WW-C



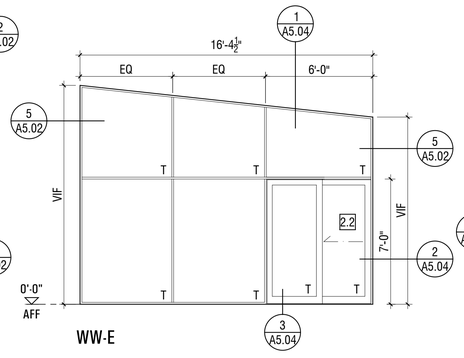
WW-D



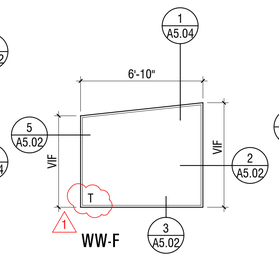
WW-A



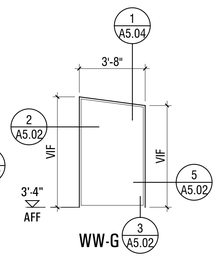
WW-B



WW-E



WW-F



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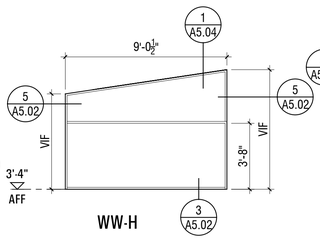

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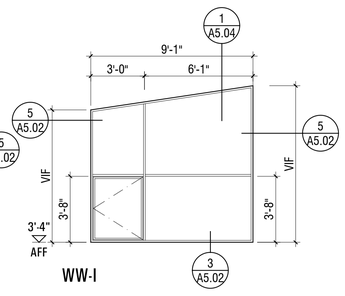


WW-I

WINDOW ELEVATIONS - LOT 133

GENERAL WINDOW SCHEDULE NOTES

i. Refer to 'general sheets' for general notes, symbols, legends & abbreviations

ii. Refer to building plans and exterior elevations for window wall locations

iii. Refer to door schedule and details for additional information

iv. Refer to plans for window marks and door swings.

1. Glass sizes indicated are approximate and are provided as a general guide for reference only. Contractor to field verify all openings and correct any deviations from specified framing tolerances prior to proceeding; contractor to field verify all window dimensions prior to ordering ("guaranteed framing dimensions" will not be accepted).

2. Dimensions are to outside f.o. perimeter frame, not rough opening, and centerlines of intermediate mullions, typ u.n.o.

3. Dimensions at doors are to f.o. door slab/mullion, typ u.n.o.

4. All glazing used within 18" of a floor, glazing subject to human impact, and glazing within a 24" arc of a door, adjacent to stairs/ramps, and other hazardous locations as defined by the Code shall be fully tempered, or laminated glass. 1

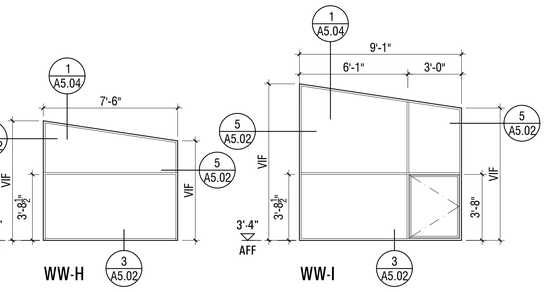
5. Window manufacturer is responsible for performing all engineering as required for detailing windows and mulled sections to accommodate story drift and wind loading. Contractor shall include all costs as required for steel reinforcing, hardwood and other components as required to accomplish daylight openings as per window elevations. All engineering calculations are to be provided to Structural Engineer of Record prior to procuring windows for coordination with building structure.

6. Window manufacturer is responsible for providing all internal steel reinforcing at mulled sections, and for all matching sash cladding and trim required to conceal reinforcement at mulled conditions.

WINDOW SPECIFICATIONS (Basis of Design):

- Window frame wood species: paint-grade wood
- Window frame interior finish: pre-finished white, or primed for field painting if shop-finished is not available
- Exterior window cladding color: To be selected from manufacturer's standard colors.
- Window hardware: Manufacturer's standard hardware in standard "Black" finish.
- Screens: Manufacturer's standard insect screens.
- Glazing: Manufacturer's standard available insulated glazing unit rated for high-altitude installation:
  - NFRC CPD#: KKM-K-194-00426-00001
  - U-value: 0.27
  - SHGC: 0.21
  - Visible light transmittance: 0.47
  - Condensation rating: 42
  - Insulated unit make up: Double Pane, Clear/No Lami
  - Coatings: LoE-366 ThermaPlus
  - Gas fill: Air (provide open breather tubes to be sealed upon delivery to site).
  - Spacer: Stainless Steel
  - Lite divisions: Onelite

"T" designates safety glazing required as per Building Code



WW-I

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STATE OF UTAH
DANIEL HOFFMAN
No. 7829867-0301
LICENSED ARCHITECT
June 26, 2017

A6.10
WINDOW SCHEDULE

1/4" = 1'-0"
scale

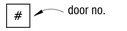
1

PERMIT SET
phase / rev

2017.06.01
date

DOOR SCHEDULE

DOOR MARK:



ABBREVIATIONS:

ALUM	aluminum clad wd	PTD	painted
CA	clear anodized	RO	rough opening
DR(S)	door(s)	S-C	self-closing
DTL'S	details	SCWD	solid core wood door
(E) or (e)	existing		
GL	glass		
H	high, height	SF	storefront
HCWD	hollow core wood door	SL	sidelite
		STC	sound transmission class
HM	hollow metal		
HR	hour	STD	standard
HW	hardware	STL	steel
MANUF	manufacturer	SSTL	stainless steel
MIN	minute	TR	transom
NR	non rated	TS	tube steel
OH	overhead	VP	vision panel
PM	perforated metal	W	width
PR	pair	WD	wood

* REFER TO HARDWARE SCHEDULE FOR ADDITIONAL INFORMATION *
ALL DOOR HANDING IS BY CONTRACTOR AND DOOR SUPPLIER; NOTE ALL REFERENCES AND DETAILS ARE MADE TO TYPICAL UNIT; MIRRORED UNITS ARE OPPOSITE CONFIGURATION WITH OPPOSITE HANDING AND HARDWARE. REFER TO SITE PLAN FOR MIRRORED/NON-MIRRORED LAYOUT.

DOOR NOTES:

1. Net door height equals nominal door size minus 1/8" top clearance & 5/8" bottom clearance from door threshold (verify w/ mfr.) or finished floor elevation, typical u.n.o. - refer to details and hardware groups for special undercut requirements for door bottom.
2. Net door width equals nominal door size minus 1/8" side clearance each side, typical u.n.o.
3. Glazing used in doors, glazing adjacent to doors, glazing within 18" of a floor, glazing subject to human impact, & glaz'g within a 24" arc of a door shall be fully tempered or laminated glass in accordance with IRC 308.
4. Contractor to field verify all openings and correct for any deviations & tolerances prior to proceeding.
5. Refer to plan for swing (or slide) direction.
6. All as viewed from the exterior/outside.
7. Reinforce all hardware locations within doors and frames.
8. If provided, locate vision panels in center of door or as per door type. Provide 1/2" square glazing bead at perimeter of vision panel (both sides), typ u.n.o.
9. All keying shall be determined by Owner.
10. Finishes shall be applied to all exposed sides of doors, including tops and bottoms, whether visible or not.

DOOR AND HARDWARE SPECIFICATION NOTES:

1. Egress doors shall be readily openable from the egress side without the use of a key or special knowledge or effort. [IRC 311.2].
2. All hardware to meet BHMA standards; provide full complement of hardware, weatherstripping, and accessories as required for a complete installation.
3. Coordinate hardware requirements with door thickness; provide extended spindles or other modifications as required.
4. All interior door lever sets, pocket door hardware, and bi-pass door hardware to be supplied from a single manufacturer from the same series, in identical finishes.

DOOR HARDWARE SCHEDULE

ACCEPTABLE MANUFACTURERS -
HINGES: Square corner full mortise butt hinges in finish US26D for exterior, US19 for interior, supplied by Emtek, or as supplied by Stanley Hardware, Schlage, or equivalent.
LEVER SETS: Exterior - FSB, no substitutions; Interior - Basis of Design: Emtek
POCKET/BI-PASS HARDWARE: Basis of Design: Emtek
DEADBOLTS: Basis of Design: Emtek

SET #:	DESCRIPTION:
1.	Exterior Door - Weatherstripping: by door fabricator; Threshold: Pemko 75518D bronze anodized aluminum; Butt Hinges: by door fabricator, US32D finish, heavy duty ball bearing (x3); Entry lever set: Emtek "Helios" lever with Emtek "EL-EM Touch" single cylinder 'smart' deadbolt in US19 finish; Door stop: Ives FS18S; Door Viewer: Emtek #2610 in US15 finish; Doorbell: Emtek "RO-09" push button with disc rosette in US19 finish, transformer and chime by Nutone 16v model C907 located in garage, and model LA39WH painted to match wall located in entry level closet.
2.	Interior Storage/Utility Door - Butt Hinges: Emtek "Square Barrel" 3-knuckle hinges (x3) in matte black finish; Lever set: Emtek "Helios" lever with Emtek #8467 single cylinder deadbolt in US19 finish; Door stop: Ives FS18S if inside storage/utility room, or Emtek "2233 extendable baseboard door stop if in hallway.
2.1	Interior Garage Door: Threshold: Pemko 75518D bronze anodized aluminum; Butt Hinges: Emtek "Square Barrel" 3-knuckle hinges (x3) in matte black finish, (1) to be self-closing; Lever set: Emtek "TS-STP" Single cylinder deadbolt entry lever with "Helios" lever #5312 in matte black finish; Door stop: Ives FS18S.
3.	Interior Passage (swing) Door - Butt Hinges: Emtek "Square Barrel" 3-knuckle hinges (x3) in matte black finish; Lever set: Emtek "Helios" lever with disc rosette and privacy function in matte black finish; Door stop: Emtek #2233 extendable baseboard door stop in US19 finish.
3.1	*Same as hardware set 3 - provide passage function lever set*
4.	Interior Passage (pocket) Door - Acoustic seals: Zero International sliding and pocket door system; Pocket door hardware: Emtek "TS" Modern Rectangular Mortise lock with privacy function in matte black finish. Pocket door track by frame manufacturer.
5.	Interior Closet/Laundry Door - Pivots: Ives 7253 top and bottom pivot set in US26D finish; Dummy handle set: Emtek "Helios" lever with disc rosette and dummy function in matte black finish; Ball catch: Stanley 1440 in satin chrome finish (x2 - install at head and sill, typical).
5.1	*Same as hardware set 5 - provide for paired doors (x2 qty).*
6.	Exterior Utility Panel - Continuous Hinge: Pemko BLFMSLISF-HD3 in black anodized finish; Ball catches: Ives 347 stainless steel ball catch (x2), install at 1/3 points from top and bottom edges.
7.	Bi-pass Closet Doors - Track: Tektrim Double Flush Pocket Door Track system with tracks, end mounting plates, and bottom guide track/plunger by track hardware manufacturer; Door Stop: by track hardware manufacturer; Pulls: Emtek #2211 flush round pull in US19 finish.

DOOR SCHEDULE - TYPICAL LOTS

#	DOOR SIZE (W x H x THK)	TYPE	MAT'L	FRAME SIZE	FRAME MAT'L	DETAILS HEAD	DETAILS JAMB	DETAILS SILL	SAFETY GLAZ'G	HDW SET #	REMARKS
0.1	2'-10" x 7'-0" x 1-3/8"	C1	SCWD	[4]	WD	5/A5.11	5/A5.11	-/-	N/A	2	
0.2	3'-0" x 8'-6" x 1-3/8"	C2	SCWD	[3]	WD	1/A5.11	2/A5.11	-/-	N/A	4	
0.3	2'-10" x 7'-0" x 1-3/8"	C1	SCWD	[4]	WD	5/A5.11	5/A5.11	-/-	N/A	3	
0.4	3'-0" x 7'-0" x 1-3/8"	C2	SCWD	[3]	WD	1/A5.11	2/A5.11	-/-	N/A	4	
0.5	2'-10" x 7'-0" x 1-3/8"	D1	SCWD	[4]	WD	4/A5.11	5/A5.11	-/-	N/A	3	
1.1	9'-0" x 7'-0"* x 2-1/2"	F	SCWD	N/A	WD*	4/A5.03	2,5/A5.03	3/A5.03	N/A	BY MFR	[2]
1.2	3'-1-1/2" x 7'-0" x 2"	G	WD	N/A	N/A	-/-	-/-	-/-	N/A	6	
1.3	3'-0" x 7'-0" x 2-1/2"	A	SCWD	1-1/4" x 4-3/4"	WD	8/A5.03	10/A5.03	11/A5.03	N/A	1	[1]
1.4	3'-0" x 7'-0" x 1-3/8"	C1	SCWD	[4]	WD	3/A5.11	3/A5.11	-/-	N/A	2.1	
1.5	2'-6" x 7'-0" x 1-3/8" (PR)	C3	SCWD	N/A	N/A	-/-	-/-	-/-	N/A	5.1	[5]
1.6	2'-4" x 7'-0" x 1-3/8"	C1	SCWD	[4]	WD	5/A5.11	5/A5.11	-/-	N/A	3.1	
1.7	2'-6" x 7'-0" x 1-3/8"	C1	SCWD	1-1/4" x 4-3/4"	WD	5/A5.11	5/A5.11	-/-	N/A	3	
1.8	3'-0" x 7'-0" x 1-3/8"	D1	SCWD	[4]	WD	4/A5.11	5/A5.11	-/-	N/A	3	
2.1	2'-4" x 7'-0" x 1-3/8"	C1.1	SCWD	[4]	WD	5/A5.11	5/A5.11	-/-	N/A	3	
2.2	6'-0" x 7'-0" x 1-3/4"	E	ALU	7/8" x 4-1/2"	ALU	-/-	2/A5.04	3/A5.04	Y	BY MFR	

REMARKS:

[1] Custom exterior wood door with matching flush transom and sidelight - ref specifications.
[2] Custom segmented overhead wood garage door with metal cladding to match adjacent metal wall cladding; door consists of standard panel segments with one (1) unique bottom panel sized to align with garage slab elevation. See typical door detail 1/A5.03.
[3] Fabricated tube steel pocket door frame for 2x4 or 2x6 framed wall; ref details and field verify stud size for coordination.
[4] Match frame depth to finished wall thickness, typically 4-3/4" or 6-3/4".
[5] Provide blocking in floor framing and header for pivots - recess bottom pivot mount flush with finished floor, and recess top pivot flush with bottom face of finished door header.
[6] Provide 1-1/4" undercut on all doors to laundry, typ.

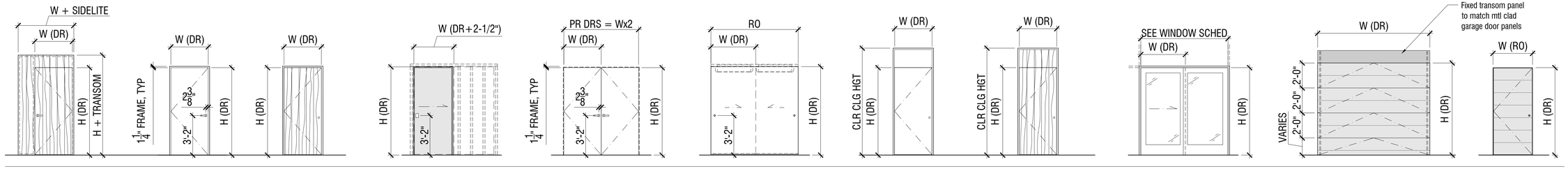
DOOR SCHEDULE - LOT 124

#	DOOR SIZE (W x H x THK)	TYPE	MAT'L	FRAME SIZE	FRAME MAT'L	DETAILS HEAD	DETAILS JAMB	DETAILS SILL	SAFETY GLAZ'G	HDW SET #	REMARKS
0.1	2'-10" x 7'-0" x 1-3/8"	C1	SCWD	[4]	WD	5/A5.11	5/A5.11	-/-	N/A	3	
0.2	2'-10" x 7'-0" x 1-3/8"	C1	SCWD	[4]	WD	5/A5.11	5/A5.11	-/-	N/A	2	
0.3	3'-0" x 7'-0" x 1-3/8"	C2	SCWD	[3]	WD	1/A5.11	2/A5.11	-/-	N/A	4	
0.4	2'-10" x 7'-0" x 1-3/8"	D1	SCWD	[4]	WD	4/A5.11	5/A5.11	-/-	N/A	3	
0.5	2'-10" x 7'-0" x 1-3/8"	C1	SCWD	[4]	WD	5/A5.11	5/A5.11	-/-	N/A	2	
0.6	2'-10" x 7'-0" x 1-3/8"	D1	SCWD	[4]	WD	4/A5.11	5/A5.11	-/-	N/A	3	
0.7	2'-0" x 7'-0" x 1-3/8"(PR)	C4	SCWD	[4]	WD	-/-	-/-	-/-	N/A	7	
0.8	2'-0" x 7'-0" x 1-3/8"(PR)	C4	SCWD	[4]	WD	-/-	-/-	-/-	N/A	7	
1.1	9'-0" x 7'-0"* x 2-1/2"	F	SCWD	N/A	WD*	4/A5.03	2,5/A5.03	3/A5.03	N/A	BY MFR	[2]
1.2	3'-1-1/2" x 7'-0" x 2"	G	WD	N/A	N/A	-/-	-/-	-/-	N/A	6	
1.3	3'-0" x 7'-0" x 2-1/2"	A	SCWD	1-1/4" x 4-3/4"	WD	8/A5.03	10/A5.03	11/A5.03	N/A	1	[1]
1.4	3'-0" x 7'-0" x 1-3/8"	C1	SCWD	[4]	WD	3/A5.11	3/A5.11	-/-	N/A	2.1	
1.5	2'-6" x 7'-0" x 1-3/8" (PR)	C3	SCWD	N/A	N/A	-/-	-/-	-/-	N/A	5.1	[5], [6]
1.6	2'-4" x 7'-0" x 1-3/8"	C1	SCWD	[4]	WD	5/A5.11	5/A5.11	-/-	N/A	3.1	
1.7	2'-6" x 7'-0" x 1-3/8"	C1	SCWD	1-1/4" x 4-3/4"	WD	5/A5.11	5/A5.11	-/-	N/A	3	
1.8	2'-10" x 7'-0" x 1-3/8"	D1	SCWD	[4]	WD	4/A5.11	5/A5.11	-/-	N/A	3	
1.9	3'-0" x 8'-6" x 1-3/8"	C2	SCWD	[3]	WD	1/A5.11	2/A5.11	-/-	N/A	4	
2.1	2'-4" x 7'-0" x 1-3/8"	C1.1	SCWD	[4]	WD	5/A5.11	5/A5.11	-/-	N/A	3	
2.2	6'-0" x 7'-0" x 1-3/4"	E	ALU	7/8" x 4-1/2"	ALU	-/-	2/A5.04	3/A5.04	Y	BY MFR	

DOOR SCHEDULE - LOT 133

#	DOOR SIZE (W x H x THK)	TYPE	MAT'L	FRAME SIZE	FRAME MAT'L	DETAILS HEAD	DETAILS JAMB	DETAILS SILL	SAFETY GLAZ'G	HDW SET #	REMARKS
0.1	2'-10" x 7'-0" x 1-3/8"	C1	SCWD	[4]	WD	5/A5.11	5/A5.11	-/-	N/A	3	
0.2	2'-10" x 7'-0" x 1-3/8"	C1	SCWD	[4]	WD	5/A5.11	5/A5.11	-/-	N/A	2	
0.3	3'-0" x 7'-0" x 1-3/8"	C2	SCWD	[3]	WD	1/A5.11	2/A5.11	-/-	N/A	4	
0.4	2'-0" x 7'-0" x 1-3/8"(PR)	D1	SCWD	[4]	WD	4/A5.11	5/A5.11	-/-	N/A	3	
0.5	2'-10" x 7'-0" x 1-3/8"	C1	SCWD	[4]	WD	5/A5.11	5/A5.11	-/-	N/A	2	
0.6	2'-10" x 7'-0" x 1-3/8"	D1	SCWD	[4]	WD	4/A5.11	5/A5.11	-/-	N/A	3	
0.7	3'-3" x 7'-0" x 1-3/8"(PR)	C4	SCWD	[4]	WD	-/-	-/-	-/-	N/A	7	
1.1	9'-0" x 7'-0"* x 2-1/2"	F	SCWD	N/A	WD*	4/A5.03	2,5/A5.03	3/A5.03	N/A	BY MFR	[2]
1.2	3'-1-1/2" x 7'-0" x 2"	G	WD	N/A	N/A	-/-	-/-	-/-	N/A	6	
1.3	3'-0" x 7'-0" x 2-1/2"	A	SCWD	1-1/4" x 4-3/4"	WD	8/A5.03	10/A5.03	11/A5.03	N/A	1	[1]
1.4	3'-0" x 7'-0" x 1-3/8"	C1	SCWD	[4]	WD	3/A5.11	3/A5.11	-/-	N/A	2.1	
1.5	2'-6" x 7'-0" x 1-3/8" (PR)	C3	SCWD	N/A	N/A	-/-	-/-	-/-	N/A	5.1	[5], [6]
1.6	2'-4" x 7'-0" x 1-3/8"	C1	SCWD	[4]	WD	5/A5.11	5/A5.11	-/-	N/A	3.1	
1.7	2'-6" x 7'-0" x 1-3/8"	C1	SCWD	1-1/4" x 4-3/4"	WD	5/A5.11	5/A5.11	-/-	N/A	3	
1.8	2'-10" x 7'-0" x 1-3/8"	D1	SCWD	[4]	WD	4/A5.11	5/A5.11	-/-	N/A	3	
1.9	3'-0" x 8'-6" x 1-3/8"	C2	SCWD	[3]	WD	1/A5.11	2/A5.11	-/-	N/A	4	
2.1	2'-4" x 7'-0" x 1-3/8"	C1.1	SCWD	[4]	WD	5/A5.11	5/A5.11	-/-	N/A	3	
2.2	6'-0" x 7'-0" x 1-3/4"	E	ALU	7/8" x 4-1/2"	ALU	-/-	2/A5.04	3/A5.04	Y	BY MFR	

DOOR TYPES



A
ENTRY DOOR
exterior, wood cladding o/ door, sidelite and transom

C1
FLUSH SCWD DR & FRAME
interior, swing

C1.1
WD CLAD SCWD DR & FRAME
interior, swing w/ wood cladding

C2
FLUSH SCWD DR
interior, pocket

C3
FLUSH SCWD DR, PR
interior, paired swing (frameless)

C4
FLUSH SCWD DR, BI-PASS
interior, paired sliding

D1
WD CLAD SCWD DR & FRAME
interior, swing w/ transom

D1.1
WD CLAD SCWD DR & FRAME
interior, swing w/ transom and wood cladding

E
ALUM CLAD WD DR & FRAME
exterior, sliding

F
METAL CLAD GARAGE DOOR
exterior, custom height

G
METAL CLAD PANEL
exterior, custom size

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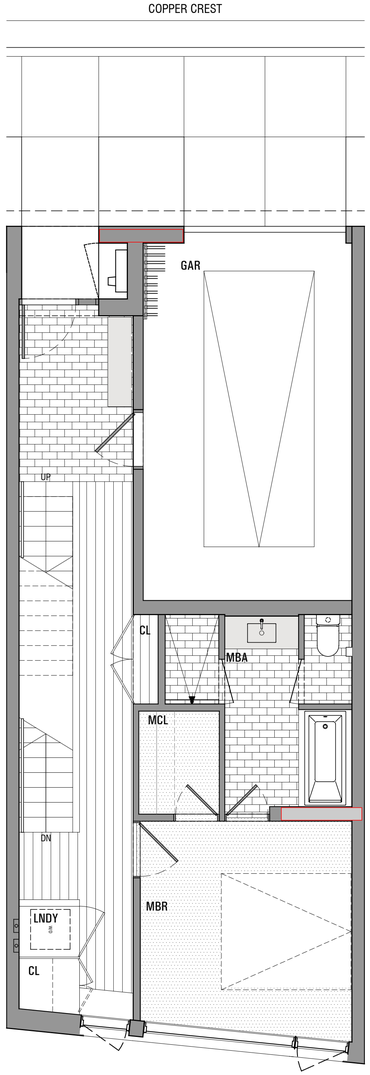
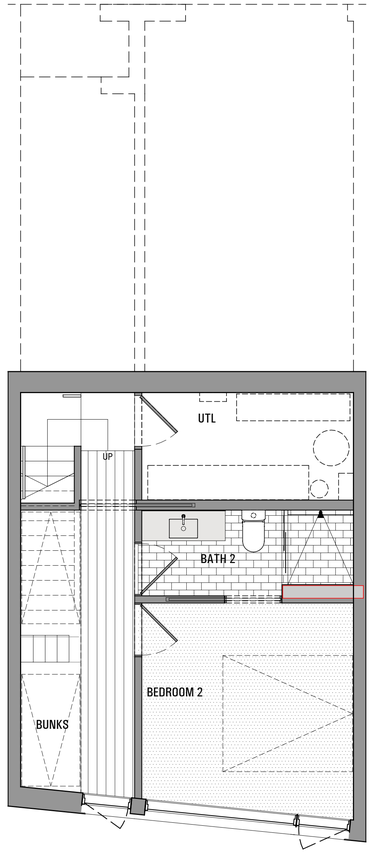
A6.20
DOOR SCHEDULES

NTS
scale

PERMIT SET
phase / rev

2017.06.01
date





ALL FURNITURE IS N.I.C., U.N.O.

REF UNIT PLANS AND INTERIOR ELEVATIONS FOR ALTERNATE FOR ARCHITECTURAL MILLWORK / CABINETRY SHOWN DASHED AND HATCHED.

MATERIALS LEGEND

GENERAL NOTE: Refer to specifications sheet a0.20 - a0.21 for additional material information and installation requirements.

WOOD FLOORING

TILE

CARPET

WOOD DECKING

FINISH SCHEDULE

GENERAL NOTES:
Refer to plans, building sections, interior elevations, and details for specific conditions which may vary from typical conditions noted below. Refer to specifications for additional information on all finishes, accessories, and installation requirements. Contractor shall take care to review material transition requirements for coordination with substrates and concealed conditions - do not proceed with finishes installation without correcting any deficiencies. Review all finish requirements with Architect prior to commencing work.

ABBREVIATIONS:

CA	clear anodized alum	GWB	gypsum wall board
CLG	ceiling	HDWD	hardwood
CLR	clear	MTL	metal
CONC	concrete	MWK	millwork
CPT	carpet	PNT/PTD	painted
DEFS	direct-applied exterior finish system	RB	rubber base
		SCHD	scheduled
ENG	engineered	SLR	sealer
FF	finished floor	STL	steel
FIN	finish/finished	T	tile
GL	glass	WD	wood

TYPICAL FINISH CONDITIONS:
CEILING: LEVEL 4 GWB w/ PAINTED FINISH. GLOSS LEVEL: FLAT
WALLS, TYPICAL: LEVEL 4 GWB w/ PAINTED FINISH. GLOSS LEVEL: FLAT
WALLS, BATHROOMS: PORCELAIN TILE @ ALL SHOWER AND TUB WALLS; SEE 'WALLS', TYPICAL FOR ALL OTHER WALLS
BASE: 4"H WOOD BASE w/ PIGMENTED LACQUER FINISH - REF. DETAIL.
FLOOR: PORCELAIN TILE/PRE-FINISHED WD FLOOR/CARPET - REF FINISH/FURN PLANS

TYPICAL LOT

ROOM NAME	CEILINGS	WALLS	BASE	FLOOR	REMARKS
LOWER LEVEL					
BUNKS	PTD GWB	PTD GWB	WD	ENG WD	
UTILITY ROOM	PTD GWB	PTD GWB	RB	CONC	[3]
BATH 2	PTD GWB	PTD GWB	WD/T	T	[1]
BEDROOM 2	PTD GWB	PTD GWB	WD	CPT	
STAIRS	PTD GWB	PTD GWB	WD	WD	[2]
ENTRY LEVEL					
GARAGE	PTD GWB	PTD GWB	RB	CONC	[3]
ENTRY/ HALLWAY	PTD GWB	PTD GWB	WD	T/ENG WD	
MASTER BEDROOM	PTD GWB	PTD GWB	WD	CPT	
MASTER CLOSET	PTD GWB	PTD GWB	WD	CPT	
MASTER BATH	PTD GWB	PTD GWB	WD/T	T	[1]
STAIRS	PTD GWB	PTD GWB	WD	WD	[2]
UPPER LEVEL					
KITCHEN/ DINING	PTD GWB	PTD GWB	WD	ENG WD	
LIVING	PTD GWB	PTD GWB	WD	ENG WD	
POWDER ROOM	PTD GWB	PTD GWB	WD/T	T	[1]
STAIRS	PTD GWB	PTD GWB	WD	WD	[2]
TERRACE	DEFS	WD/MTL	N/A	WD	[2]

NOTES:
[1] Refer to interior elevations for locations/extents of multiple materials. Provide clean, flush transitions at material joints, and provide neatly tooled, paintable siliconized sealant.
[2] Refer to specific component details for additional information and installation/material requirements.
[3] Provide clear sealer on all exposed concrete surfaces.

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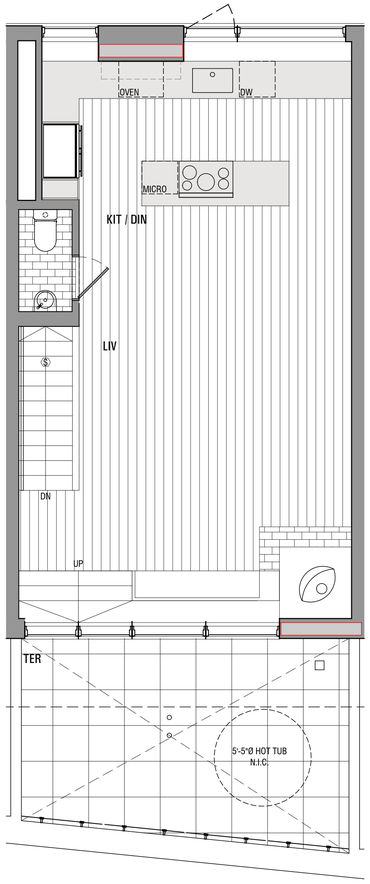
STATE OF UTAH
DANIEL HOFFMAN
No. 7829867-0301
June 1, 2017
LICENSED ARCHITECT

A9.21
TYPICAL UNIT ENTRY AND LOWER LEVEL FINISH & FURNITURE PLANS
1/4" = 1'-0"
scale

PERMIT SET
phase / rev

2017.06.01
date



MATERIALS LEGEND

GENERAL NOTE: Refer to specifications sheet a0.20 - a0.21 for additional material information and installation requirements.

WOOD FLOORING

TILE

CARPET

WOOD DECKING

FINISH SCHEDULE

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TYPICAL LOT

ROOM NAME	CEILINGS	WALLS	BASE	FLOOR	REMARKS
LOWER LEVEL					
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UTILITY ROOM	PTD GWB	PTD GWB	RB	CONC	[3]
BATH 2	PTD GWB	PTD GWB	WD/T	T	[1]
BEDROOM 2	PTD GWB	PTD GWB	WD	CPT	
STAIRS	PTD GWB	PTD GWB	WD	WD	[2]
ENTRY LEVEL					
GARAGE	PTD GWB	PTD GWB	RB	CONC	[3]
ENTRY/ HALLWAY	PTD GWB	PTD GWB	WD	T/ENG WD	
MASTER BEDROOM	PTD GWB	PTD GWB	WD	CPT	
MASTER CLOSET	PTD GWB	PTD GWB	WD	CPT	
MASTER BATH	PTD GWB	PTD GWB	WD/T	T	[1]
STAIRS	PTD GWB	PTD GWB	WD	WD	[2]
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KITCHEN/ DINING	PTD GWB	PTD GWB	WD	ENG WD	
LIVING	PTD GWB	PTD GWB	WD	ENG WD	
POWDER ROOM	PTD GWB	PTD GWB	WD/T	T	[1]
STAIRS	PTD GWB	PTD GWB	WD	WD	[2]
TERRACE	DEFS	WD/MTL	N/A	WD	[2]

NOTES:
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REF UNIT PLANS AND INTERIOR ELEVATIONS FOR ALTERNATE FOR ARCHITECTURAL MILLWORK / CABINETRY SHOWN DASHED AND HATCHED.

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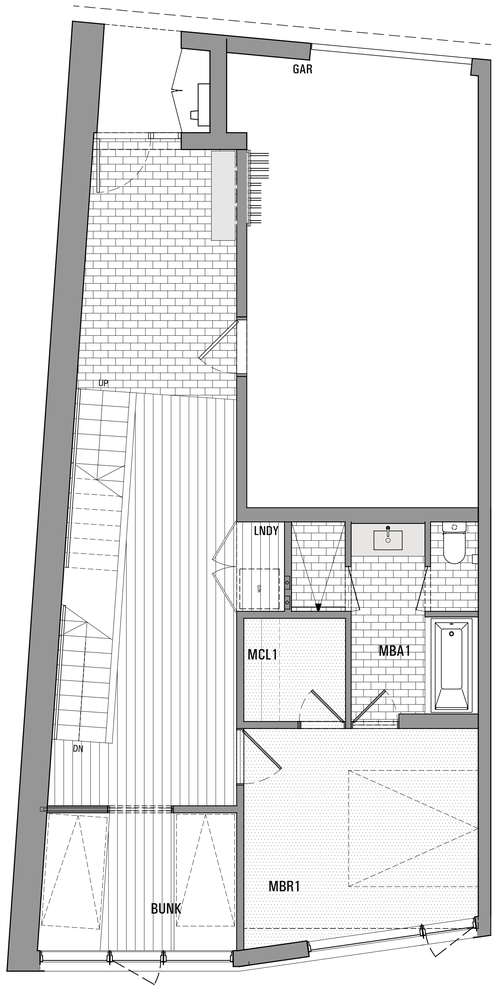
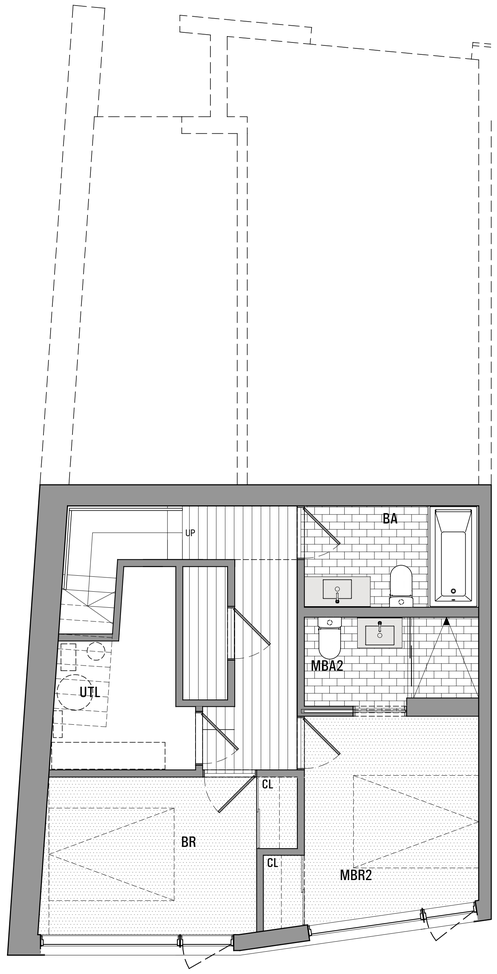
A9.22
TYPICAL UNIT
UPPER LEVEL FINISH & FURNITURE PLAN

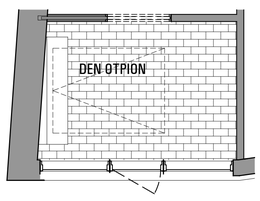
1/4" = 1'-0"
scale

PERMIT SET
phase / rev

2017.06.01
date







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MATERIALS LEGEND

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TILE

CARPET

WOOD DECKING

FINISH SCHEDULE

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FLOOR: PORCELAIN TILE/PRE-FINISHED WD FLOOR/CARPET - REF FINISH/FURN PLANS

LOT 124

ROOM NAME	CEILINGS	WALLS	BASE	FLOOR	REMARKS
LOWER LEVEL					
HALLWAY	PTD GWB	PTD GWB	WD	ENG WD	
CLOSET	PTD GWB	PTD GWB	WD	ENG WD	
UTILITY ROOM	PTD GWB	PTD GWB	RB	CONC	[3]
BATH	PTD GWB	PTD GWB	WD/T	T	[1]
BEDROOM	PTD GWB	PTD GWB	WD	CPT	
MASTER BATH 2	PTD GWB	PTD GWB	WD/T	T	[1]
MASTER BED 2	PTD GWB	PTD GWB	WD	CPT	
STAIRS	PTD GWB	PTD GWB	WD	WD	[2]
ENTRY LEVEL					
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ENTRY/ HALLWAY	PTD GWB	PTD GWB	WD	T/ENG WD	
MASTER BEDROOM 1	PTD GWB	PTD GWB	WD	CPT	
MASTER CLOSET	PTD GWB	PTD GWB	WD	CPT	
MASTER BATH	PTD GWB	PTD GWB	WD/T	T	[1]
BUNK	PTD GWB	PTD GWB	WD	ENG WD	
STAIRS	PTD GWB	PTD GWB	WD	WD	[2]
UPPER LEVEL					
KITCHEN/ DINING	PTD GWB	PTD GWB	WD	ENG WD	
LIVING	PTD GWB	PTD GWB	WD	ENG WD	
POWDER ROOM	PTD GWB	PTD GWB	WD/T	T	[1]
STAIRS	PTD GWB	PTD GWB	WD	WD	[2]
TERRACE	DEFS	WD/MTL	N/A	WD	[2]

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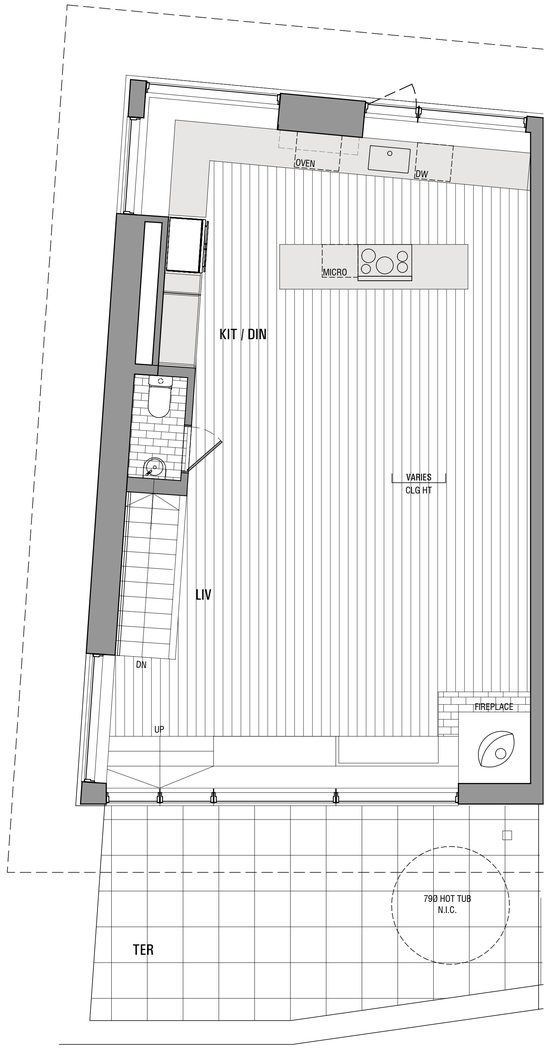
STATE OF UTAH
DANIEL HOFFMAN
No. 7829867-0301
June 1, 2017
LICENSED ARCHITECT

A9.23
LOT 124 ENTRY AND LOWER LEVEL FINISH & FURNITURE PLANS

1/4" = 1'-0"
scale

PERMIT SET
phase / rev

2017.06.01
date



MATERIALS LEGEND

GENERAL NOTE: Refer to specifications sheet a0.20 - a0.21 for additional material information and installation requirements.

WOOD FLOORING

TILE

CARPET

WOOD DECKING

FINISH SCHEDULE

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LOT 124

ROOM NAME	CEILINGS	WALLS	BASE	FLOOR	REMARKS
LOWER LEVEL					
HALLWAY	PTD GWB	PTD GWB	WD	ENG WD	
CLOSET	PTD GWB	PTD GWB	WD	ENG WD	
UTILITY ROOM	PTD GWB	PTD GWB	RB	CONC	[3]
BATH	PTD GWB	PTD GWB	WD/T	T	[1]
BEDROOM	PTD GWB	PTD GWB	WD	CPT	
MASTER BATH 2	PTD GWB	PTD GWB	WD/T	T	[1]
MASTER BED 2	PTD GWB	PTD GWB	WD	CPT	
STAIRS	PTD GWB	PTD GWB	WD	WD	[2]
ENTRY LEVEL					
GARAGE	PTD GWB	PTD GWB	RB	CONC	[3]
ENTRY/ HALLWAY	PTD GWB	PTD GWB	WD	T/ENG WD	
MASTER BEDROOM 1	PTD GWB	PTD GWB	WD	CPT	
MASTER CLOSET	PTD GWB	PTD GWB	WD	CPT	
MASTER BATH	PTD GWB	PTD GWB	WD/T	T	[1]
BUNK	PTD GWB	PTD GWB	WD	ENG WD	
STAIRS	PTD GWB	PTD GWB	WD	WD	[2]
UPPER LEVEL					
KITCHEN/ DINING	PTD GWB	PTD GWB	WD	ENG WD	
LIVING	PTD GWB	PTD GWB	WD	ENG WD	
POWDER ROOM	PTD GWB	PTD GWB	WD/T	T	[1]
STAIRS	PTD GWB	PTD GWB	WD	WD	[2]
TERRACE	DEFS	WD/MTL	N/A	WD	[2]

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STATE OF UTAH
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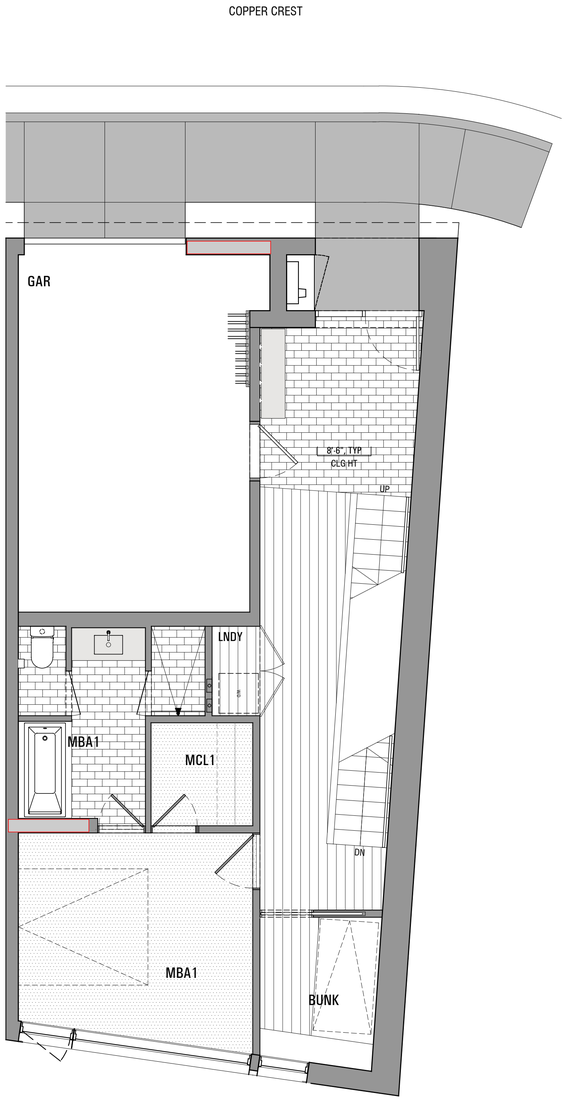
June 1, 2017
LICENSED ARCHITECT

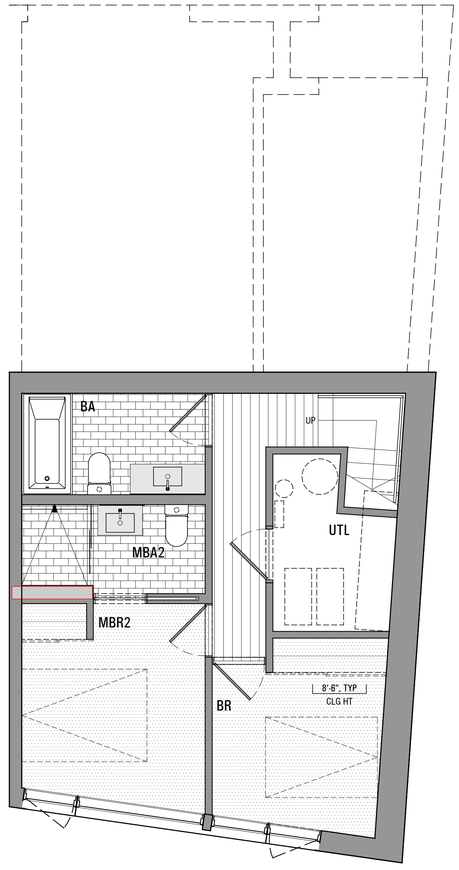
A9.24
LOT 124 UPPER LEVEL FINISH & FURNITURE PLAN

1/4" = 1'-0"
scale

PERMIT SET
phase / rev

2017.06.01
date





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LOT 133

ROOM NAME	CEILINGS	WALLS	BASE	FLOOR	REMARKS
LOWER LEVEL					
HALLWAY	PTD GWB	PTD GWB	WD	ENG WD	
UTILITY ROOM	PTD GWB	PTD GWB	RB	CONC	[3]
BATH	PTD GWB	PTD GWB	WD/T	T	[1]
BEDROOM	PTD GWB	PTD GWB	WD	CPT	
MASTER BATH 2	PTD GWB	PTD GWB	WD/T	T	[1]
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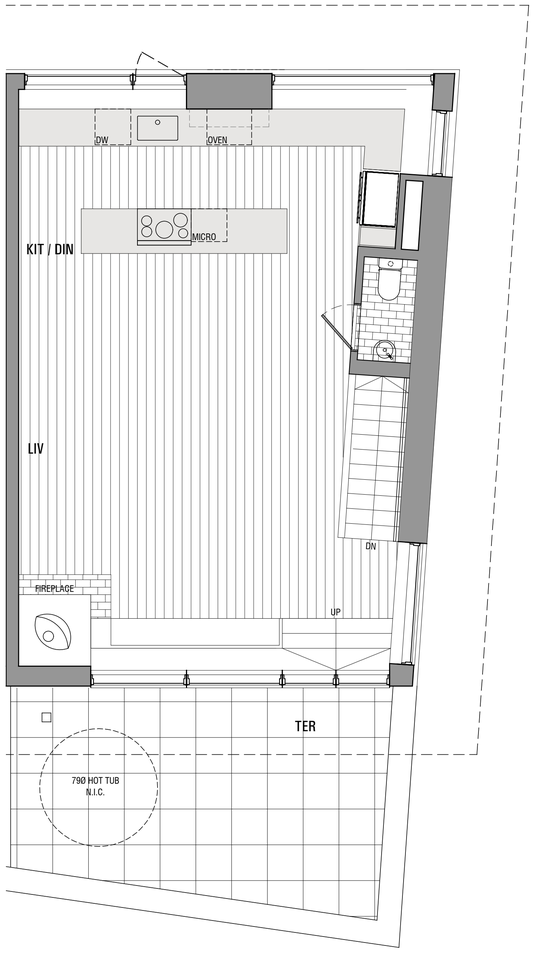
STATE OF UTAH
DANIEL HOFFMAN
No. 7829867-0301
June 1, 2017
LICENSED ARCHITECT

A9.25
LOT 133 ENTRY AND LOWER LEVEL FINISH & FURNITURE PLANS

1/4" = 1'-0"
scale

PERMIT SET
phase / rev

2017.06.01
date



MATERIALS LEGEND

GENERAL NOTE: Refer to specifications sheet a0.20 - a0.21 for additional material information and installation requirements.

WOOD FLOORING

TILE

CARPET

WOOD DECKING

FINISH SCHEDULE

GENERAL NOTES:
Refer to plans, building sections, interior elevations, and details for specific conditions which may vary from typical conditions noted below. Refer to specifications for additional information on all finishes, accessories, and installation requirements. Contractor shall take care to review material transition requirements for coordination with substrates and concealed conditions - do not proceed with finishes installation without correcting any deficiencies. Review all finish requirements with Architect prior to commencing work.

ABBREVIATIONS:

CA	clear anodized alum	GWB	gypsum wall board
CLG	ceiling	HDWD	hardwood
CLR	clear	MTL	metal
CONC	concrete	MWK	millwork
CPT	carpet	PNT/PTD	painted
DEFS	direct-applied exterior finish system	RB	rubber base
		SCHD	scheduled
ENG	engineered	SLR	sealer
FF	finished floor	STL	steel
FIN	finish/finished	T	tile
GL	glass	WD	wood

TYPICAL FINISH CONDITIONS:
CEILING: LEVEL 4 GWB w/ PAINTED FINISH. GLOSS LEVEL: FLAT
WALLS, TYPICAL: LEVEL 4 GWB w/ PAINTED FINISH. GLOSS LEVEL: FLAT
WALLS, BATHROOMS: PORCELAIN TILE @ ALL SHOWER AND TUB WALLS; SEE 'WALLS', TYPICAL FOR ALL OTHER WALLS
BASE: 4"H WOOD BASE w/ PIGMENTED LACQUER FINISH - REF. DETAIL.
FLOOR: PORCELAIN TILE/PRE-FINISHED WD FLOOR/CARPET - REF FINISH/FURN PLANS

LOT 133

ROOM NAME	CEILINGS	WALLS	BASE	FLOOR	REMARKS
LOWER LEVEL					
HALLWAY	PTD GWB	PTD GWB	WD	ENG WD	
UTILITY ROOM	PTD GWB	PTD GWB	RB	CONC	[3]
BATH	PTD GWB	PTD GWB	WD/T	T	[1]
BEDROOM	PTD GWB	PTD GWB	WD	CPT	
MASTER BATH 2	PTD GWB	PTD GWB	WD/T	T	[1]
MASTER BED 2	PTD GWB	PTD GWB	WD	CPT	
STAIRS	PTD GWB	PTD GWB	WD	WD	[2]
ENTRY LEVEL					
GARAGE	PTD GWB	PTD GWB	RB	CONC	[3]
ENTRY/ HALLWAY	PTD GWB	PTD GWB	WD	T/ENG WD	
MASTER BEDROOM 1	PTD GWB	PTD GWB	WD	CPT	
MASTER CLOSET	PTD GWB	PTD GWB	WD	CPT	
MASTER BATH	PTD GWB	PTD GWB	WD/T	T	[1]
BUNK	PTD GWB	PTD GWB	WD	ENG WD	
STAIRS	PTD GWB	PTD GWB	WD	WD	[2]
UPPER LEVEL					
KITCHEN/ DINING	PTD GWB	PTD GWB	WD	ENG WD	
LIVING	PTD GWB	PTD GWB	WD	ENG WD	
POWDER ROOM	PTD GWB	PTD GWB	WD/T	T	[1]
STAIRS	PTD GWB	PTD GWB	WD	WD	[2]
TERRACE	DEFS	WD/MTL	N/A	WD	[2]

NOTES:
[1] Refer to interior elevations for locations/extents of multiple materials. Provide clean, flush transitions at material joints, and provide neatly tooled, paintable siliconized sealant.
[2] Refer to specific component details for additional information and installation/material requirements.
[3] Provide clear sealer on all exposed concrete surfaces.

ALL FURNITURE IS N.I.C., U.N.O.

REF UNIT PLANS AND INTERIOR ELEVATIONS FOR ALTERNATE FOR ARCHITECTURAL MILLWORK / CABINETRY SHOWN DASHED AND HATCHED.

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sma project no.
16-101

sma project name
POWDERCAT

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PERMIT SET
phase / rev

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GENERAL STRUCTURAL NOTES:

I. GENERAL:

A. ALL CONSTRUCTION AND TESTING IS TO BE IN STRICT ACCORDANCE WITH THE 2015 INTERNATIONAL BUILDING CODE AND ALL RELATED PUBLICATIONS OF THE I.C.C.
B. ALL ICC REPORTS REFERENCED IN THIS REPORT ARE AVAILABLE FREE OF CHARGE AT HTTP://WWW.ICC-ES.ORG.
C. THE STRUCTURAL DRAWINGS SHOW THE COMPLETED PROJECT. THEY DO NOT INCLUDE COMPONENTS THAT MAY BE NECESSARY FOR CONSTRUCTION SAFETY. THE CONTRACTOR IS RESPONSIBLE FOR SAFETY ON AND AROUND THE JOBSITE DURING CONSTRUCTION.
D. STRUCTURAL NOTES SHALL BE USED ALONG WITH THE SPECIFICATIONS AND DRAWINGS. WHERE THE STRUCTURAL NOTES, STRUCTURAL AND ARCHITECTURAL DRAWINGS OR SPECIFICATIONS DISAGREE, THE CONTRACTOR MAY REQUEST A CLARIFICATION DURING THE BIDDING PERIOD, OTHERWISE THE MORE STRINGENT REQUIREMENTS SHALL CONTROL (AS DETERMINED BY THIS ENGINEER).
E. PROVIDE ALL TEMPORARY BRACING, SHORING, GUYING OR OTHER MEANS TO AVOID EXCESSIVE STRESSES AND TO HOLD STRUCTURAL ELEMENTS IN PLACE DURING CONSTRUCTION.
F. ESTABLISH AND VERIFY ALL OPENINGS AND INSERTS FOR MECHANICAL, ELECTRICAL AND PLUMBING WITH THE APPROPRIATE TRADES, DRAWINGS AND SUBCONTRACTORS PRIOR TO CONSTRUCTION.
G. VERIFY AND COORDINATE ALL DIMENSIONS AND CONDITIONS PRIOR TO STARTING WORK. NOTIFY THE ARCHITECT OF ANY DISCREPANCIES OR INCONSISTENCIES.
H. STRUCTURAL DETAILS: DETAILS ARE APPLICABLE WHERE INDICATED BY SECTION CUT, BY NOTE OR BY DETAIL TITLE. PROVIDE SIMILAR DETAILS AT SIMILAR CONDITIONS UNLESS NOTED OTHERWISE. THE CONTRACTOR MAY REQUEST A CLARIFICATION DURING THE BIDDING PERIOD OTHERWISE THE MORE STRINGENT REQUIREMENTS SHALL CONTROL (AS DETERMINED BY THIS ENGINEER).
I. REFER TO ARCHITECTURAL DRAWINGS FOR ALL SLAB ELEVATIONS AND SLOPES NOT NOTED.
J. ANY ENGINEERING DESIGN PROVIDED BY OTHERS AND SUBMITTED FOR REVIEW SHALL BEAR THE SEAL AND SIGNATURE OF A STRUCTURAL ENGINEER REGISTERED IN UTAH.
K. THE COST OF DESIGN WORK RESULTING FROM ERRORS OR OMISSIONS IN CONSTRUCTION SHALL BE BORNE BY THE CONTRACTOR.

II. DESIGN CRITERIA:

A. BUILDING CODE: WEBER COUNTY, UTAH, 2015 I.B.C.

B. LOADINGS:

1. INTERIOR FLOOR DEAD LOAD FINISH ALLOWANCE = 12 PSF MAX.
2. GROUND SNOW LOAD = 262.5 PSF w/ DRIFTS PER ASCE 7-10
3. ROOF DESIGN SNOW LOAD = 259 PSF
4. TYPICAL FLOOR & STAIR LIVE LOAD = 40 PSF (RESIDENTIAL)
5. EXTERIOR TERRACE LIVE LOAD = 60 PSF
6. PROJECT RISK CATEGORY = II

7. WIND LOADS:

   a) ULTIMATE VELOCITY = 115 MPH
   b) ENCLOSED
   c) EXPOSURE = C

8. SEISMIC LOADS:

   a) SOIL SITE CLASS = C
   b) Ss = 0.811, SDS = .635
   c) S1 = 0.269, SD1 = .334
   d) SEISMIC DESIGN CATEGORY = D
   e) R = 6.5, Cd=4, OMEGA = 3 (WOOD SHEAR WALLS)
   f) RHO = 1.3
   g) Ie = 1.00
   h) Cs = 0.0977 ULT, 0.0684 ASD

C. SOIL BEARING ALLOWABLE:

1. PER SOILS INVESTIGATION REPORT BY "INTERMOUNTAIN GEOENVIRONMENTAL SERVICES, INC.", PROJECT NO. 01628-022. REFER TO THIS REPORT FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
2. ALL FOOTINGS ARE TO BE FOUNDED EITHER ON ENTIRELY ON COMPETENT NATIVE SOILS OR ENTIRELY ON COMPACTED FILLS AS DESCRIBED IN THE GEOTECHNICAL REPORT. MIXING OF BEARING MATERIALS IS NOT ALLOWED. THE SUITABLE NATIVE SOILS ARE EXPECTED TO OCCUR AT BETWEEN 2 AND 3 FEET BELOW THE ORIGINAL PRE-ROAD GRADE ON THE SITE.
3. ALLOWABLE NET BEARING PRESSURE ON THESE SOILS IS 2400 PSF AS INDICATED IN THE GEOTECHNICAL REPORT. ALL FOOTING BEARING MATERIALS, WIDTHS AND DEPTHS ARE TO BE VERIFIED BY THE GEOTECHNICAL SPECIAL INSPECTOR.
4. IN ADDITION TO THE ABOVE REQUIREMENTS, ALL FOOTINGS EXPOSED TO THE EXTERIOR ARE TO BE FOUNDED AT NOT LESS THAN 3'-6" BELOW FINAL EXTERIOR GRADE FOR FROST COVERAGE. FOOTING ELEVATIONS INDICATED ARE BASED ON THE ASSUMED FINAL GRADES AT THE PERIMETER OF THE BUILDING. CONTRACTOR SHALL VERIFY THAT SUFFICIENT COVERAGE IS PROVIDED AT ALL FOUNDATIONS AND SHALL ADJUST FOOTING ELEVATIONS IF REQUIRED. ANY CHANGE IN FOOTING ELEVATION OF MORE THAN 8" MUST RECEIVE PRIOR APPROVAL FROM THIS ENGINEER.
5. ALL FOOTINGS ARE TO BE FOUNDED AT THE LOWER OF THE ABOVE TWO PARAGRAPH REQUIREMENTS, BUT AT DEPTHS NOT LESS THAN INDICATED ON THE STRUCTURAL DRAWINGS. IF ANY FOOTING NEEDS TO BE LOWERED BELOW THE DEPTHS INDICATED ON THE STRUCTURAL DRAWINGS, NOTIFY THIS ENGINEER FOR FURTHER RECOMMENDATIONS PRIOR TO PROCEEDING WITH ANY FOUNDATION INSTALLATION.
6. ALL SLABS ON GRADE ARE TO BEAR ON THE ASSEMBLIES NOTED ON THE STRUCTURAL AND ARCHITECTURAL DRAWINGS AND ON PREPARED SUBGRADE IN ACCORDANCE WITH THE GEOTECHNICAL REPORT.

III. MATERIALS AND EXECUTION:

A. CONCRETE:

1. ALL CONCRETE CONSTRUCTION SHALL COMPLY WITH ACI 301, LATEST ADOPTION.

2. CONCRETE MATERIAL PROPERTIES: HIGH-RANGE WATER REDUCERS ARE NOT PERMITTED IN ANY CONCRETE USED IN FLATWORK (SLABS ON GRADE, TOPPING SLABS, ETC.). 28-DAY COMPRESSIVE STRENGTHS ARE TO BE AS FOLLOWS.

a) SPREAD FOOTINGS	3000 PSI.
b) SLABS ON GRADE:	4000 PSI.
c) CONCRETE WALLS:	4000 PSI.

3. AGGREGATE SIZE: 1" MAXIMUM FOR FOOTINGS, 3/4" MAXIMUM FOR ALL OTHER CONCRETE.

4. SLUMP: 4" PLUS OR MINUS 1" FOR ALL CONCRETE UNLESS HISTORICAL DATA SHOWS ACCEPTABLE PERFORMANCE AT A DIFFERENT SLUMP (SUBJECT TO APPROVAL BY THE STRUCTURAL ENGINEER).

5. CAST IN PLACE CONCRETE:

   a) SPACING OF CONSTRUCTION JOINTS OR CONTROL JOINTS IN WALLS EXPOSED TO VIEW SHALL NOT EXCEED 40 FEET UNLESS SPECIFICALLY NOTED OTHERWISE ON THE DRAWINGS.
   b) PROVIDE EXTRA REINFORCING AROUND ALL OPENINGS EXCEEDING 24 INCHES SQUARE OR ROUND IN ALL SLABS AND WALLS EQUAL TO TWO #5 BARS ON FOUR SIDES (ONE BAR EACH FACE)AND EXTEND TWO FEET BEYOND THE OPENING.
   c) COORDINATE CHAMFER SIZE ON ALL EXPOSED CORNERS OF CONCRETE WITH THE ARCHITECT. OMIT CHAMFER WHERE INDICATED ON THE ARCHITECTURAL DRAWINGS OR IN THE SPECIFICATIONS.
   d) PROVIDE CLASS B LAP SPLICES FOR ALL REINFORCING UNLESS NOTED OTHERWISE.
   e) PROVIDE ISOLATION JOINTS AROUND ALL COLUMNS AT ALL SLAB ON GRADE AREAS.
   f) PROVIDE CORNER BARS AT ALL WALL CORNER AND TEE CONDITIONS WITH CLASS B LAPS PER ACI.
   g) FOLLOW ACI 306R REQUIREMENTS FOR COLD WEATHER CONCRETING AND 305R REQUIREMENTS FOR HOT WEATHER CONCRETING AS REQUIRED.
   h) DO NOT BACKFILL AGAINST RETAINING WALLS UNTIL ALL SLAB-ON-GRADE, FOOTING AND WALL CONCRETE HAS REACHED FULL DESIGN STRENGTH. SEE PLANS FOR ADDITIONAL REQUIREMENTS.

   i) SLAB ON GRADE JOINTING: ALL SLABS ON GRADE ARE TO BE JOINTED AT NO MORE THAN 10'-0" EA. WAY USING JOINTS AS PER DETAIL 1/S0.11. IN ADDITION, NO SECTION OF CONCRETE SHALL HAVE AN ASPECT RATIO OF GREATER THAN 1 1/2:1. PROVIDE (2) #4 x 4'-0" MID-HEIGHT SLAB BARS ADJACENT TO ALL DISCONTINUOUS JOINT LOCATIONS, AND AT ANY WALL OR PILASTER CORNERS NOT INTERSECTED BY JOINTS. SUBMIT COMPLETE JOINT LAYOUT PLAN TO THE ARCHITECT FOR PRIOR REVIEW.

6. CONCRETE TESTING REQUIREMENTS:

   a) ALL CONCRETE MATERIALS SHALL BE TESTED IN ACCORDANCE WITH THE APPROPRIATE STANDARDS AND CRITERIA FOR THE MATERIAL IN CHAPTER 3 OF ACI 301.
   b) OBTAIN AT LEAST ONE COMPOSITE SAMPLE FOR EACH 100 CUBIC YARDS, OR FRACTION THEREOF, OF EACH CONCRETE MIXTURE PLACED IN ANY ONE DAY.
   c) CONDUCT STRENGTH TESTS OF CONCRETE DURING CONSTRUCTION IN ACCORDANCE WITH THE FOLLOWING PROCEDURES:
      (1) MOLD AND CURE THREE CYLINDERS FROM EACH SAMPLE IN ACCORDANCE WITH ASTM C 31/C 31M. RECORD ANY DEVIATIONS FROM THE ASTM REQUIREMENTS IN THE TEST REPORT.
      (2) DETERMINE SLUMP OF EACH COMPOSITE SAMPLE TAKEN.
      (3) DETERMINE TEMPERATURE OF EACH COMPOSITE SAMPLE TAKEN.
      (4) TEST CYLINDERS IN ACCORDANCE WITH ASTM C 39. TEST ONE SPECIMEN AT 7 DAYS FOR INFORMATION, AND TWO SPECIMENS AT 28 DAYS FOR ACCEPTANCE, UNLESS OTHERWISE SPECIFIED. THE COMPRESSIVE STRENGTH TEST RESULTS FOR ACCEPTANCE SHALL BE THE AVERAGE OF THE COMPRESSIVE STRENGTHS FROM THE TWO SPECIMENS TESTED AT 28 DAYS.
      (5) SUBMIT TEST REPORTS TO THIS ENGINEER AFTER EACH COMPRESSIVE STRENGTH TEST. REPORT SHALL INCLUDE SLUMP AND TEMPERATURE READINGS TAKEN AT TIME OF SAMPLING.

7. BASEPLATE GROUT: GROUT FOR USE UNDER BASE PLATES AND BEARING PLATES IS TO BE HIGH-STRENGTH, NON-METALLIC, NON-SHRINK GROUT. MINIMUM COMPRESSIVE STRENGTH AT 3 DAYS IS TO BE 3000 PSI. GROUT MAY BE INSTALLED EITHER AS A DRYPACK OR FLOWABLE MIXTURE, BUT SHALL BE DRYPACKED AT ALL EXPOSED CONDITIONS. EDGES OF GROUT AT EXPOSED CONDITIONS SHALL BE CUT AT A 15 DEGREE ANGLE FROM VERTICAL SUCH THAT THE GROUT IS THE SAME WIDTH AT THE STEEL PLATE AT THE TOP AND WIDER AT THE BOTTOM.

8. REINFORCING STEEL:

   a) ALL BARS #4 AND LARGER TO BE ASTM A 615, GRADE 60. ALL #2 AND #3 BARS TO BE ASTM A 615, GRADE 40. DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH ACI-301, LATEST ADOPTION.
   b) WELDED WIRE FABRIC TO BE IN ACCORDANCE WITH ASTM A 185.
   c) ALL BARS INDICATED ON THE PLANS TO BE WELDED SHALL CONFORM TO ASTM A 706 (GRADE 60).
   d) MINIMUM CONCRETE COVER FOR REINFORCING BARS TO FACE OF BARS INCLUDING TIES:

      (1) CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH: 3"
      (2) CONCRETE EXPOSED TO EARTH OR WEATHER:

         #6 BARS AND LARGER: 2"
         #5 BARS AND SMALLER: 1-1/2"

B. STRUCTURAL AND MISCELLANEOUS STEEL:

1. MATERIAL PROPERTIES:

   a) TO BE ASTM A 36 UNLESS NOTED OTHERWISE.
   b) ALL WIDE-FLANGE SHAPES ARE TO BE ASTM A992 - GRADE 50.
   c) PIPE IS TO BE ASTM A 501, Fy = 36 KSI OR ASTM A 53, TYPE E OR TYPE S, GRADE B, Fy = 35 KSI.
   d) SQUARE OR RECTANGULAR TUBES ARE TO BE ASTM A 500, GRADE B, Fy = 46 KSI.
   e) ALL STEEL IS TO BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH A.I.S.C. SPECIFICATIONS, LATEST ADOPTION.

2. WELDING:

   a) FOR STRUCTURAL STEEL TO BE IN ACCORDANCE WITH A.W.S. REQUIREMENTS FOR E70XX ELECTRODES.
   b) ALL FILLET WELDS UP TO 5/16" SHALL BE MADE AS SINGLE PASS WELDS. ALL MULTI-PASS WELDS REQUIRE VISUAL INSPECTION FOR EACH WELD PASS PRIOR TO INSTALLING SUBSEQUENT PASSES. MULTI-PASS WELDS THAT HAVE NOT BEEN PROPERLY INSPECTED WILL BE REJECTED.
   c) ALL WELD BACKER BARS AND/OR ERECTION AIDS ARE TO BE REMOVED AT CONDITIONS THAT ARE EXPOSED TO VIEW. BACKER BARS ARE TO BE REMOVED WHEN AWS WELD TYPE REQUIRES BACK-GOUGING. EXPOSED SURFACES SHALL BE GROUND SMOOTH WITH ANY HOLES OR GOUGES FILLED AND GROUND SMOOTH.

3. BOLTS AND OTHER FASTENERS:

   a) ALL BOLTS AT STEEL TO STEEL CONNECTIONS TO BE ASTM A 325-N UNLESS NOTED OTHERWISE. ALL BOLTS ARE TO BE TIGHTENED TO A SNUG-TIGHT CONDITION UNLESS NOTED OTHERWISE.
   b) ALL BOLTS AT WOOD TO STEEL OR WOOD TO WOOD CONNECTIONS TO BE ASTM A 307 UNLESS NOTED OTHERWISE.
   c) TYPICAL ANCHOR RODS SHALL BE ASTM F1554, GRADE 36, U.N.O
   d) ADHESIVE ANCHORS FOR ATTACHMENT TO CONCRETE ARE TO BE ASTM F1554, GRADE 36, THREADED RODS WITH SIMPSON "SET-XP" ADHESIVE, INSTALLED IN ACCORDANCE WITH ICC ESR-2508. DRILLED HOLE DIMENSIONS ARE TO BE AS FOLLOWS IN EXISTING CONCRETE UNLESS NOTED OTHERWISE. HOLE DEPTH IS MEASURED FROM THE OUTSIDE FACE OF THE CONCRETE. ALL CONCRETE SHALL BE AT ITS SPECIFIED DESIGN STRENGTH AT THE TIME OF INSTALLATION.

ROD DIA./BAR SIZE	DRILL BIT DIA.	HOLE DEPTH
1/2"	5/8"	4"
5/8"	3/4"	5"
#4	5/8"	4"
#5	3/4"	5"

4. HEADED STUD SHEAR CONNECTORS: TO BE ASTM A 108. ALL HEADED STUDS ARE TO BE BY "NELSON STUD WELDING" OR APPROVED EQUAL AND ARE TO BE FLASH WELDED TO THE SUPPORTING STEEL USING AN ELECTRIC ARC WELDING PROCESS.

C. WOOD:

1. DIMENSIONAL LUMBER: ALL TO BE GRADE STAMPED PER W.C.L.B. RULES.

   a) ALL STUDS, JOISTS, BEAMS, PLATES, HEADERS AND OTHER LUMBER TO BE D.FIR/LARCH #2 UNLESS OTHERWISE NOTED.
   b) 4x, 6x AND 8x POSTS TO BE D.FIR/LARCH NO.1.
   c) ALL WOOD PLATES IN CONTACT WITH STEM WALLS OR SLABS ON GRADE ARE TO BE PRESSURE TREATED.

2. RIMBOARD: TO BE 1-1/2" THICK LSL OR LVL RIMBOARD BY REDBUILT OR OTHER PRE-APPROVED EQUAL WITH DEPTH AS INDICATED. USE 2.0E REDLAM LVL WHERE 3-1/2" THICKNESS IS INDICATED.

3. GLU-LAMS:

   a) SHALL BE MANUFACTURED IN ACCORDANCE WITH ANSI/AITC A190.1, CURRENT EDITION.
   b) ALL MEMBERS SHALL BE GRADE-STAMPED WITH AN AITC QUALITY MARK, AND SHALL MEET THE REQUIREMENTS OF D.FIR/LARCH COMBINATION 24F-V8 FOR MULTI-SPANS AND CANTILEVERED MEMBERS, AND D.FIR/LARCH COMBINATION 24F-V4 FOR SINGLE SPAN MEMBERS.
   c) ALL GLULAM MEMBERS SHALL BE CONSTRUCTED WITH EXTERIOR-GRADE ADHESIVES.

4. SHEATHING:

   a) ALL SHEATHING TO BE APA RATED PLYWOOD APPROPRIATE TO THE SPAN LENGTHS AND DIRECTIONS INDICATED ON THE DRAWINGS. SHEATHING LAY-UP TO BE WITH FACE GRAIN OR STRONG DIRECTION PERPENDICULAR TO SUPPORTS EXCEPT WHERE SPECIFICALLY SHOWN OTHERWISE. ALL SINGLE SPAN CONDITIONS ARE TO HAVE 2X4 BLOCKING ACROSS THE SPAN AT 24" O.C. MAX.
   b) ROOF SHEATHING TO BE 3/4" PERFORMANCE CATEGORY, APA RATED SHEATHING, EXPOSURE 1, WITH A SPAN RATING OF 48/24. NAIL WITH 10d NAILS AT 6" O.C. AT ALL EDGE SUPPORTS AND WITH 10d NAILS AT 12" O.C. AT ALL INTERMEDIATE SUPPORTS UNLESS NOTED OTHERWISE.
   c) FLOOR SHEATHING AT TERRACES TO BE 1-1/8" PERFORMANCE CATEGORY, T&G, APA RATED 48" O.C., STURDI-I-FLOOR SHEATHING, EXPOSURE 1. NAIL WITH 10d NAILS AT 6" O.C. AT ALL EDGE SUPPORTS AND WITH 10d NAILS AT 10" O.C. AT ALL INTERMEDIATE SUPPORTS UNLESS NOTED OTHERWISE.
   d) ALL OTHER FLOOR SHEATHING TO BE WARMBOARD AS DESCRIBED BELOW.

   1

   d) ALL ROOF AND TERRACE FLOOR SHEATHING WITHIN 4 FEET OF THE DEMISING WALLS IS TO BE FIRE-RETARDENT-TREATED SHEATHING. COORDINATE EXACT REQUIREMENTS WITH THE ARCHITECT. RUNNING BOND LAYUP OF SHEATHING IS TO BE MAINTAINED AS DESCRIBED BELOW WITH FIRE-RETARDENT-TREATED SHEATHING EXTENDED BEYOND THE 4 FOOT MINIMUM REQUIREMENT WHERE REQUIRED.
   e) ALL ROOF AND FLOOR SHEATHING IS TO BE LAID UP IN RUNNING BOND WITH STRENGTH AXIS PERPENDICULAR TO SUPPORTS. ROTATE PANEL DIRECTION AS REQUIRED TO REFLECT FRAMING DIRECTION CHANGES.
   f) IN ADDITION TO THE NAILING REQUIREMENTS INDICATED, ALL FLOOR SHEATHING CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE "APA GLUED FLOOR SYSTEM" AS DESCRIBED IN APA PUBLICATION E30, "ENGINEERED WOOD CONSTRUCTION GUIDE" AVAILABLE AT http://www.apawood.org/. ALL PANEL EDGES AND PANEL CONTACT WITH SUPPORTS SHALL BE GLUED AS DESCRIBED.
   g) FOR ALL WALLS OR PORTIONS OF WALLS NOTED TO BE SHEARWALLS, TO BE 1/2" OR 5/8" PERFORMANCE CATEGORY (THICKNESS AS INDICATED), APA RATED SHEATHING WITH 32/16 SPAN RATING, EXPOSURE 1, INSTALLED ON ONE OR TWO SIDES OF THE WALL AS INDICATED. FULLY BLOCK AND NAIL ALL PANEL EDGES. NAIL AS INDICATED IN THE SHEAR WALL SCHEDULE.

5. WARMBOARD SHEATHING:

   a) TO BE 1-1/8" THICK WARMBOARD-S RADIANT FLOOR HEATING PANELS BY WARMBOARD INC. MANUFACTURED AND INSTALLED IN ACCORDANCE WITH ICC ESR-1421.
   b) ALL SHEATHING IS TO BE LAID UP IN RUNNING BOND WITH STRENGTH AXIS PERPENDICULAR TO SUPPORTS. ROTATE PANEL DIRECTION AS REQUIRED TO REFLECT FRAMING DIRECTION CHANGES.
   c) AT ALL SHEATHING EAST OF GRID C, BLOCK AND NAIL ALL PANEL EDGES WITH 3" NOMINAL BLOCKING. NAIL WITH 10d NAILS AT 6" O.C. AT ALL EDGE SUPPORTS AND WITH 10d NAILS AT 12" O.C. AT ALL INTERMEDIATE SUPPORTS UNLESS NOTED OTHERWISE.
   d) WHERE PANEL EDGES ABUT ON I-JOISTS AND OTHER FRAMING, STAGGER NAILS ON OPPOSING PANEL EDGES AND MAINTAIN MINIMUM 3/8 EDGE DISTANCE TO PANEL EDGE AND TO EDGE OF JOIST CHORD BELOW SHEATHING.
   e) IN ADDITION TO THE NAILING REQUIREMENTS INDICATED, ALL WARMBOARD FLOOR SHEATHING CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE "APA GLUED FLOOR SYSTEM" AS DESCRIBED IN APA PUBLICATION E30, "ENGINEERED WOOD CONSTRUCTION GUIDE" AVAILABLE AT http://www.apawood.org/. ALL PANEL EDGES AND PANEL CONTACT WITH SUPPORTS SHALL BE GLUED AS DESCRIBED.

6. PLYWOOD WEB I JOISTS:

   a) TO BE DETAILED AND FABRICATED BY REDBUILT OR PRE-APPROVED EQUAL, AND ARE TO HAVE THE APPROVAL OF ICC.
   b) JOISTS HAVE BEEN SIZED BY THIS ENGINEER AND MANUFACTURER CALCULATIONS ARE NOT REQUIRED IF THE SPECIFIC PRODUCTS INDICATED ARE SUPPLIED.
   c) IF AN ALTERNATE MANUFACTURER'S PRODUCT IS TO BE SUBMITTED FOR REVIEW, FURNISH MANUFACTURER'S PUBLISHED TECHNICAL INFO, AND A TABLE THAT SHOWS THAT THE PROPOSED PRODUCT VALUES FOR EACH JOIST TYPE MEET OR EXCEED THOSE FOR THE REDBUILT PRODUCT SPECIFIED. THE TABLE SHALL INCLUDE THE FOLLOWING ITEMS FOR EACH REDBUILT AND PROPOSED ALTERNATE JOIST TYPE.

      (1) UNFACTORED RESISTING MOMENT
      (2) UNFACOTRED RESISTING SHEAR
      (3) MOMENT OF INERTIA OF BARE JOIST PRODUCT.

      SUBMITTALS THAT DO NOT INCLUDE THE TABLE AS DESCRIBED WILL BE REJECTED.

   d) LUMBER USED IN THE JOIST TOP FLANGES IS TO BE OF A WOOD SPECIES HAVING A SPECIFIC GRAVITY OF NOT LESS THAN 0.5.
   e) DOUBLE JOISTS ARE TO BE CONNECTED TOGETHER PER MANUFACTURER'S TYPICAL DETAIL. INCLUDE THIS DETAIL ON THE SHOP DRAWING SUBMITTAL.

   f) SUBMITTALS: SHOP DRAWINGS SHALL BE SUBMITTED TO THE ARCHITECT FOR REVIEW BY THE ENGINEER PRIOR TO FABRICATION.

7. PREFABRICATED WOOD ROOF TRUSSES:

   a) TO BE "GANG-NAIL" OR "ALPINE" OR APPROVED EQUAL DESIGNED, DETAILED AND FABRICATED IN ACCORDANCE WITH THE NATIONAL FOREST PRODUCTS ASSOCIATION "NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION", AND THE TRUSS PLATE INSTITUTE "NATIONAL DESIGN STANDARD FOR METAL PLATE CONNECTED WOOD TRUSS CONSTRUCTION ", LATEST ADOPTIONS.

   b) DESIGN REQUIREMENTS:

      (1) TRUSS TOP CHORDS ARE TO BE DESIGNED FOR THE SNOW LOADS INDICATED ABOVE AND FOR A SUPERIMPOSED DEAD LOAD OF NOT LESS THAN 12 PSF.
      (2) TRUSS BOTTOM CHORDS ARE TO BE DESIGNED FOR A SUPERIMPOSED DEAD LOAD OF NOT LESS THAN 8 PSF.
      (3) THE MAXIMUM ALLOWABLE STRESS INCREASE FOR DURATION OF LOAD IS TO BE 15%.
      (4) TRUSS DEFLECTION TO BE LIMITED TO L/180 FOR TOTAL LOAD AND L/240 FOR LIVE LOAD.
      (5) TRUSS DEPTH TO BE 24" WITH BEARING CONDITIONS AS SHOWN EXCEPT WHERE NOTED OTHERWISE.
      (6) PROVIDE CONTINUOUS TRUSS BLOCKING PANELS AS DETAILED WITH HORIZONTAL SEISMIC LOAD TRANSFER CAPACITY NOTED ON THE DETAILS.

   c) SUBMITTALS:

      (1) COMPLETE DESIGN CALCULATIONS SHALL BE FURNISHED TO THE ENGINEER FOR EACH TRUSS. CALCULATIONS MUST BE PREPARED AND SEALED BY A STRUCTURAL ENGINEER REGISTERED IN THE STATE OF UTAH. UNSEALED SUBMITTALS WILL BE REJECTED.
      (2) SHOP DRAWINGS SHALL BE SUBMITTED TO THE ARCHITECT FOR REVIEW BY THE ENGINEER PRIOR TO FABRICATION.
      (3) THE TRUSS MANUFACTURER SHALL PROVIDE WRITTEN CERTIFICATION THAT THE TRUSS QUALITY IS IN CONFORMANCE WITH THE QUALITY CRITERIA DESCRIBED IN ANSI/TPI-1, LATEST ADOPTION, PUBLISHED BY THE TRUSS PLATE INSTITUTE.
      (4) THE TRUSS MANUFACTURER SHALL HAVE A QUALITY ASSURANCE PROGRAM IN ACCORDANCE WITH CHAPTER 3 OF ANSI/TPI-1, LATEST EDITION, AND PROVIDE WRITTEN CERTIFICATION OF COMPLIANCE.

   d) GENERAL:

      (1) ALL TRUSSES AND RELATED BRACING SHALL BE SIZED AND DETAILED TO FIT THE DIMENSIONS AND LOADS INDICATED ON THE PLANS.
      (2) LUMBER USED FOR CHORDS AND WEBS SHALL HAVE A MAXIMUM MOISTURE CONTENT BELOW 19% AT THE TIME OF FABRICATION.
      (3) LUMBER USED FOR CHORDS AND WEBS THAT ARE TO RECEIVE PLYWOOD SHEATHING ARE TO BE OF WOOD SPECIES HAVING A SPECIFIC GRAVITY OF NOT LESS THAN 0.5.
      (4) ALL TRUSS MEMBERS SHALL MEET OR EXCEED VISUAL REQUIREMENTS FOR NO. 2 GRADE. NO WANE SHALL BE PERMITTED IN THE CONNECTION AREA.
      (5) DESIGN LATERAL RESISTANCE VALUES FOR TRUSS PLATES AND METAL WEBS SHALL BE 80% OF TPI ALLOWABLE LOAD VALUES.
      (6) THE HANKINSON FORMULA OR STRAIGHT LINE INTERPOLATION SHALL BE USED TO DETERMINE LATERAL RESISTANCE VALUES FOR PLATE TO WOOD GRAIN ANGLES BETWEEN 0 AND 90 DEGREES.
      (7) TRUSS PLATES SHALL BE SIZED SO THAT THEY CAN BE CENTERED BOTH HORIZONTALLY AND VERTICALLY ON THE JOINT UNLESS THE CHORD DEPTH OR THE TRUSS GEOMETRY PROHIBITS SUCH PLACEMENT.
      (8) EVERY TRUSS PLATE SHALL BE FULLY EMBEDDED INTO THE UNDERLYING WOOD ACROSS THE ENTIRE CONTACT AREA.
      (9) ALL TRUSSES SHALL BE ERECTED AND BRACED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND IN ACCORDANCE WITH TRUSS PLATE INSTITUTE RECOMMENDATIONS.

8. WOOD NAILING SCHEDULE (U.N.O. ON PLANS):

   a) JOIST TO SILL OR GIRDER, TOENAIL 3-8d
   b) SOLE PLATE TO JOIST OR BLOCKING, FACE NAIL 2-16d
   c) TOP PLATE TO STUD, END NAIL 2-16d
   d) 2x STUD TO PLATE, TOENAIL 4-8d or FACE NAIL 2-16d
   e) 3x STUD TO 3x PLATE, TOENAIL 4-10d OR FACE NAIL 3-20d
   f) DOUBLE STUDS, FACE NAIL 16d @ 24" O.C.
   g) DOUBLED TOP PLATES, FACE NAIL 16d @ 16" O.C.
   h) TOP PLATES, LAPS AND INTERSECTIONS, FACE NAIL 2-16d
   i) CONTINUOUS HEADER TO STUD, TOENAIL 4-8d
   j) BUILT UP CORNER STUDS, 16d @ 24" O.C.
   k) BUILT_UP GIRDERS AND BEAMS, 20d @ 32"O.C. AT TOP AND BOTTOM AND STAGGERED 2-20d AT EACH END & SPLICE
   l) RIMBOARD TO I-JOIST, 10d FACE NAIL TO T&B JOIST CHORD

9. LAG SCREW INSTALLATION:

   a) ALL LAG SCREWS REQUIRE PRE-DRILLING OF HOLES.
   b) LAG SCREWS SHALL BE INSTALLED INTO PROPERLY SIZED LEAD AND CLEARANCE HOLES PER N.F.P.A. "NATIONAL DESIGN SPECIFICATION" REQUIREMENTS AS FOLLOWS.
   c) THE CLEARANCE HOLE FOR THE SHANK SHALL HAVE THE SAME DIAMETER AS THE SHANK AND THE SAME DEPTH OF PENETRATION AS THE LENGTH OF UNTHREADED SHANK.
   d) THE LEAD HOLE FOR THE THREADED PORTION SHALL HAVE A DIAMETER EQUAL TO 40 TO 70 PERCENT OF THE SHANK DIAMETER AND A LENGTH EQUAL TO AT LEAST THE LENGTH OF THE THREADED PORTION.
   e) THE THREADED PORTION OF THE SCREW SHALL BE INSERTED IN ITS LEAD HOLE BY TURNING WITH A WRENCH, NOT BY DRIVING WITH A HAMMER.
   f) SOAP OR OTHER LUBRICANT SHALL BE USED ON THE SCREWS OR IN THE LEAD HOLE TO FACILITATE INSERTION AND PREVENT DAMAGE TO THE SCREW.

10. WOOD CONNECTORS:

   a) UNLESS NOTED OTHERWISE, ALL NAILS ARE TO BE COMMON NAILS PER ASTM F1667 WITH ASTM A153 HOT-DIP GALVANIZED FINISH. NAILS IN CONTACT WITH TREATED LUMBER ARE TO BE G185 HOT-DIP GALVANIZED OR STAINLESS STEEL.
   b) LAG SCREWS SHALL MEET THE MINIMUM REQUIREMENTS OF ASTM A307, LOW-CARBON STEEL EXTERNALLY AND INTERNALLY THREADED STANDARD FASTENERS.
   c) ALL LUMBER CONNECTORS SPECIFIED AS "SIMPSON" TYPE TO BE MANUFACTURED BY "SIMPSON STRONG-TIE COMPANY, INC." OR PRE-APPROVED EQUAL. INSTALL CONNECTORS USING MAXIMUM SIZE AND NUMBER OF FASTENERS PER MANUFACTURER'S LITERATURE UNLESS NOTED OTHERWISE. INSTALL SDS SCREWS PER MANUFACTURER'S RECOMMENDATIONS.

D. SHOP DRAWINGS:

1. SHOP DRAWINGS ARE TO BE SUBMITTED FOR ALL STRUCTURAL ITEMS AND AS REQUIRED BY THE SPECIFICATIONS. CONTRACT DRAWINGS SHALL NOT BE REPRODUCED FOR USE AS SHOP DRAWINGS.
2. CONTRACTOR SHALL THOROUGHLY REVIEW ALL SHOP DRAWINGS PRIOR TO SUBMITTAL TO THE DESIGN TEAM AND SHALL INCLUDE HIS REVIEW STAMP ON THE SUBMITTAL. ALL INFORMATION NOT IN ACCORDANCE WITH THE CONTRACT DOCUMENTS SHALL BE SO NOTED ON THE SUBMITTAL BY THE CONTRACTOR DURING HIS REVIEW. IF DEFICIENCIES ARE SUBSTANTIAL, THE SUBMITTAL SHALL BE RETURNED TO THE SUBCONTRACTOR FOR REVISIONS PRIOR TO SUBMITTING IT TO THE DESIGN TEAM.
3. ANY CHANGE FROM THE CONTRACT DOCUMENTS SHALL BE CLEARLY NOTED BY THE SUBMITTING PARTY WITH CLOUDS AND SPECIFIC REQUEST FOR APPROVAL. ANY CHANGES NOT NOTED AND CLOUDED SHALL BE CONSIDERED AS NOT APPROVED UNLESS SPECIFICALLY NOTED OTHERWISE BY THIS ENGINEER. THE SHOP DRAWING STAMP SHALL NOT BE CONSIDERED TO BE IMPLIED APPROVAL OF ANY CHANGES.
4. SHOP DRAWINGS SHALL NOT REPLACE THE CONTRACT DOCUMENTS. ITEMS OMITTED AND/OR SHOWN INCORRECTLY AND NOT NOTED BY THE REVIEWER ARE NOT TO BE CONSIDERED TO BE CHANGES TO THE CONTRACT DOCUMENTS. SHOP DRAWING REVIEW IS INTENDED AS AN AID TO THE CONTRACTOR IN HIS OBTAINING CORRECT SHOP DRAWINGS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT ALL ITEMS ARE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
5. ANY ENGINEERING DESIGN PERFORMED BY OTHERS AND SUBMITTED FOR REVIEW SHALL BEAR THE SEAL AND SIGNATURE OF A STRUCTURAL ENGINEER REGISTERED IN THE STATE OF UTAH. COMPLETE DESIGN CALCULATIONS FOR EACH ITEM SHALL BE SUBMITTED TO THE ARCHITECT FOR REVIEW BY THE ENGINEER. THE ADEQUACY AND ACCURACY OF THE DESIGNS AND LAYOUTS PERFORMED BY OTHERS RESTS WITH THE DESIGNING AND/OR SUBMITTING PARTY.

E. STRUCTURAL STEEL ERECTOR AND FABRICATOR CERTIFICATION REQUIREMENTS:

1. THE STEEL FABRICATOR FOR THIS PROJECT SHALL HAVE AISC BUILDING STANDARD [STD] CERTIFICATION. EVIDENCE OF CERTIFICATION SHALL BE SUBMITTED TO THIS ENGINEER FOR REVIEW, AND APPROVAL SHALL BE OBTAINED PRIOR TO PROCEEDING WITH ANY DETAILING OF STEEL OR FABRICATION.
2. THE STEEL ERECTOR FOR THIS PROJECT SHALL HAVE AISC CATEGORY "CSE" CERTIFICATION. AN ALTERNATE CERTIFICATION WITH ANOTHER RECOGNIZED AUTHORITY MAY BE SUBMITTED FOR REVIEW AND APPROVAL ALONG WITH EVIDENCE OF THE SUCCESSFUL COMPLETION OF NOT LESS THAN THREE PROJECTS OF SIMILAR SCOPE IN THE PAST FIVE YEARS. ACCEPTABILITY OF THE ALTERNATE CERTIFICATION AND EXPERIENCE WILL BE DETERMINED BY THIS ENGINEER. NO STEEL ERECTION SHALL PROCEED PRIOR TO RECEIVING APPROVAL.

F. SPECIAL INSPECTION:

1. ALL SPECIAL STRUCTURAL INSPECTION SHALL BE PERFORMED IN ACCORDANCE WITH IBC CHAPTER 17 AND AS DESCRIBED IN THE STATEMENT OF SPECIAL INSPECTIONS (SOSI) ON SHEET S0.13. THE PROJECT OWNER OR HIS AGENT SHALL ENGAGE A QUALIFIED INSPECTION AGENCY OR AGENCIES TO PERFORM THE INSPECTIONS THAT ARE LISTED. ALL STRUCTURAL INSPECTORS TO BE ENGAGED SHALL BE COMPETENT AND HAVE ADEQUATE TRAINING OR EXPERIENCE AS REQUIRED BY THE SOSI, AND SHALL BE PRE-APPROVED AS INDICATED.
2. STRUCTURAL INSPECTORS OF ALL STRUCTURAL WELDING SHALL BE WELDING INSPECTORS (WI) OR SENIOR WELDING INSPECTORS (SWI) AS DEFINED IN AWS B5.1, OR SHALL BE QUALIFIED UNDER THE PROVISIONS OF AWS D1.1, SECTION 6.1.4. WRITTEN EVIDENCE OF THESE QUALIFICATIONS SHALL BE SUBMITTED TO THIS ENGINEER FOR PRIOR REVIEW AND APPROVAL.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SCHEDULING AND MONITORING OF ALL SPECIAL INSPECTIONS. REASONABLE ADVANCE NOTICE SHALL BE GIVEN TO THE SPECIAL INSPECTOR, STRUCTURAL SPECIAL INSPECTION COORDINATOR, AND/OR THE INSPECTION AGENCY. NO PERTINENT WORK SHALL PROCEED OR BE COVERED UP BY OTHER WORK UNTIL SPECIAL INSPECTION HAS TAKEN PLACE AND HAS INDICATED COMPLIANCE. COPIES OF ALL WRITTEN SPECIAL INSPECTION REPORTS SHALL BE PROMPTLY FORWARDED TO THIS ENGINEER BY THE INSPECTING AGENCY.

G. DEFERRED SUBMITTALS: IN ACCORDANCE WITH IBC SECTION 107.3.4.1, THE CALCULATION AND SHOP DRAWING SUBMITTAL FOR THE FOLLOWING LISTED ITEMS SHALL BE DEFERRED UNTIL AFTER ISSUANCE OF THE BUILDING PERMIT BUT PRIOR TO THEIR INSTALLATION. THE SUBMITTAL IS TO BE REVIEWED BY THIS ENGINEER. AFTER THE APPROVAL HAS BEEN PROVIDED BY THIS ENGINEER, THE CONTRACTOR SHALL FORWARD COPIES OF THE APPROVED SUBMITTAL TO WEBER COUNTY FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION OF THE ITEM.

1. PREFABRICATED WOOD ROOF TRUSSES

AutoCAD Version: 2017
June 26, 2017 10:53:28 a.m.
Drawing: W:\A17100 – CCW Powdercat\S0.10.DWG (KAB)
Xrefs: XT–16126

architect
STUDIO MA
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T 602 251 3800

sma project no.
16-101

sma project name
POWDERCAT

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t (703) 289-2125

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9250862-2202
MARK A.
RUDOW
06/01/17

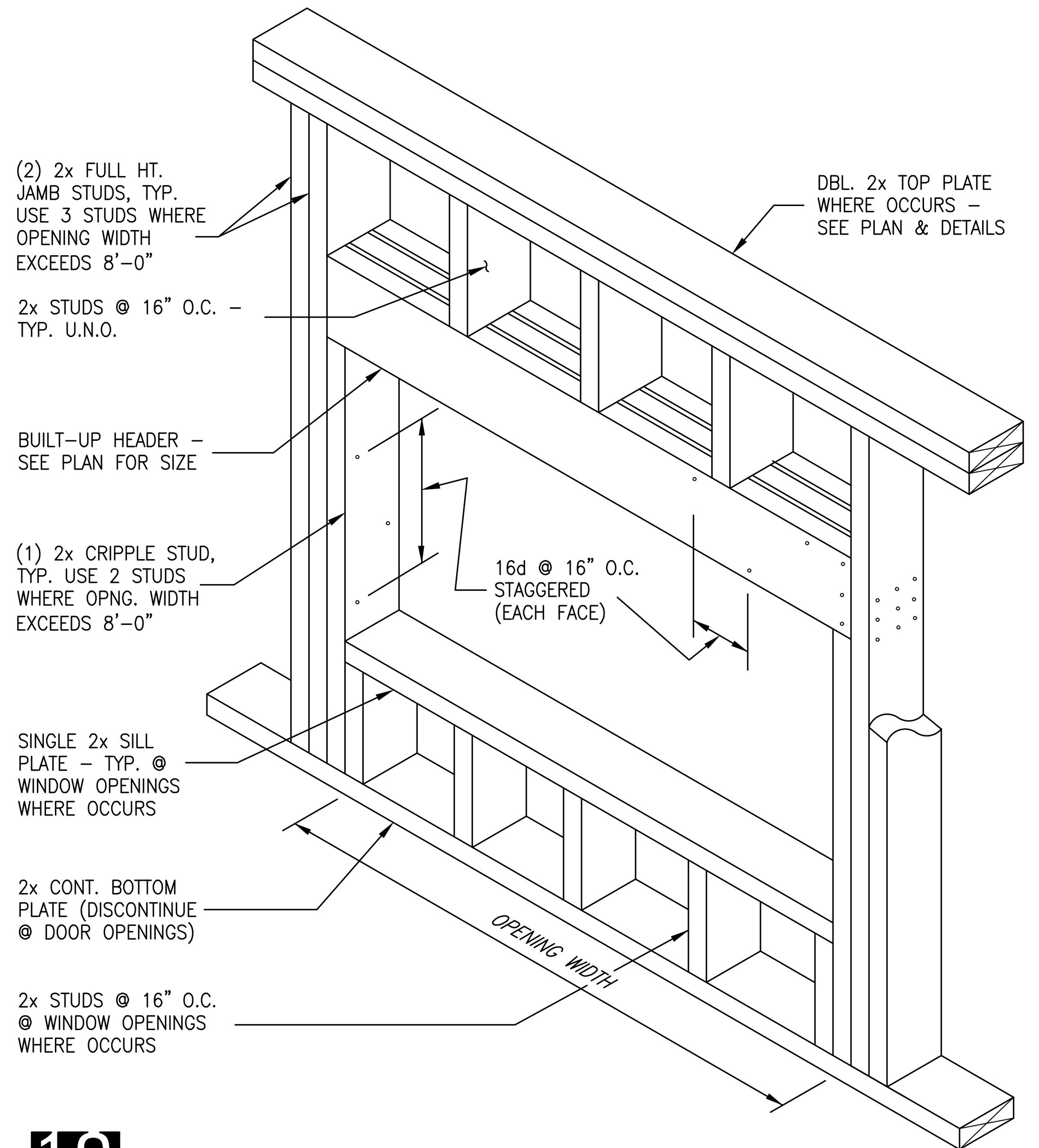
s0.10
GENERAL STRUCTURAL NOTES

NO SCALE
scale

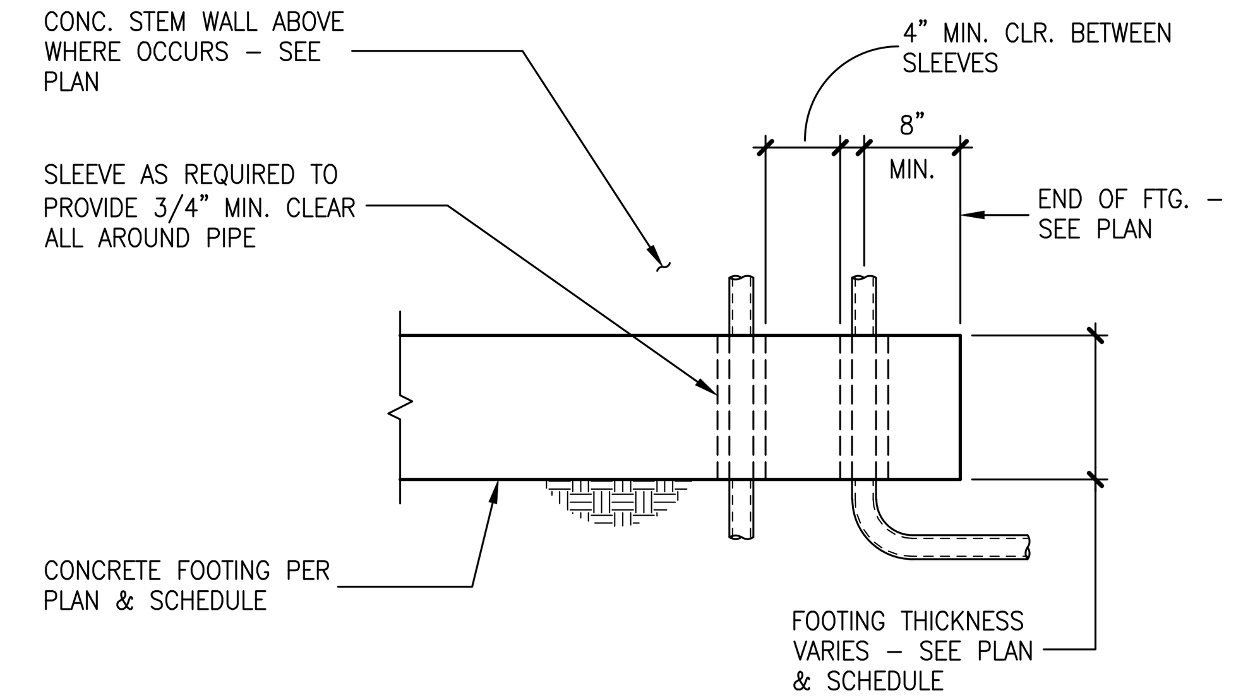
1

PERMIT SET
phase / rev

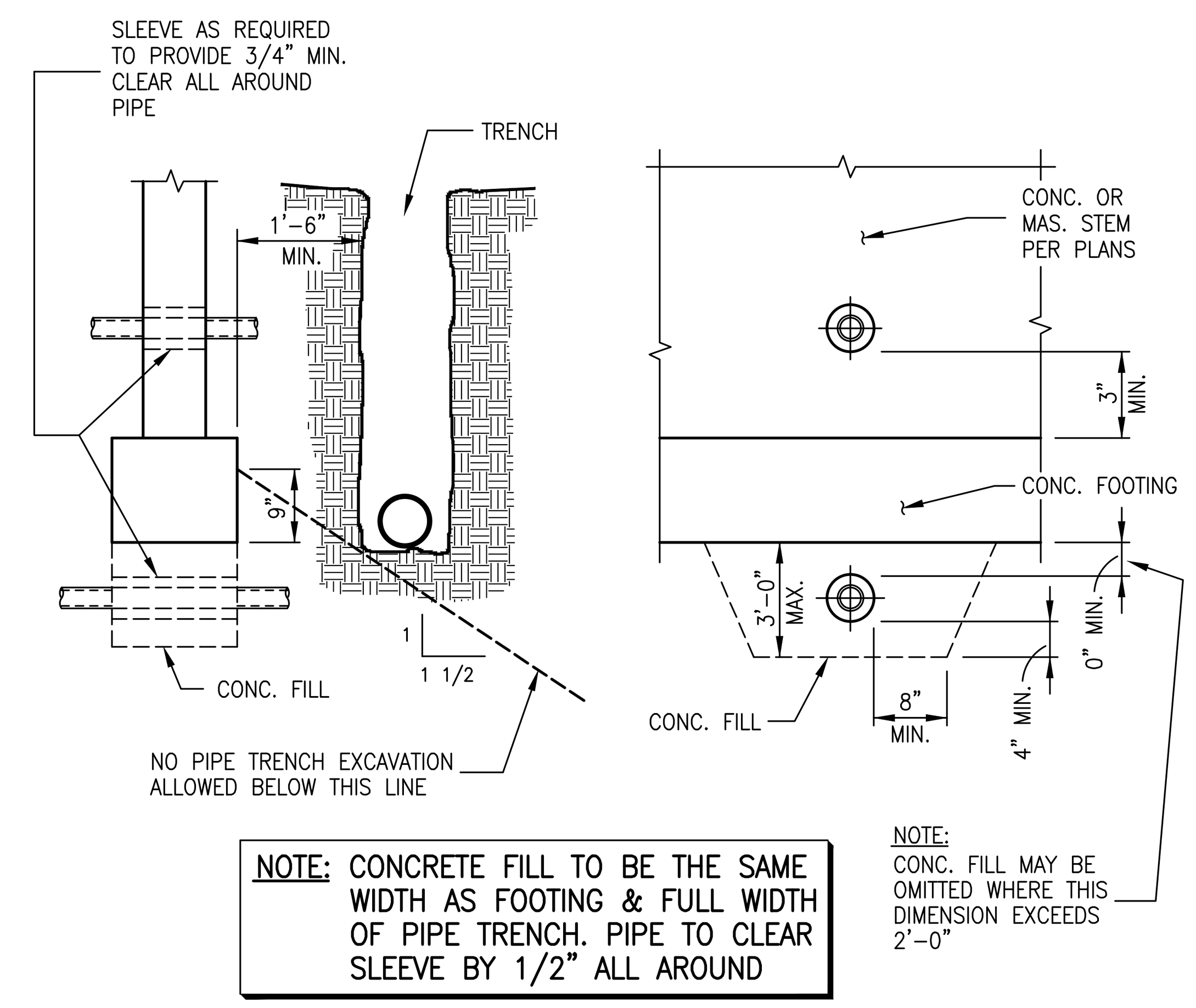
2017.06.01
date



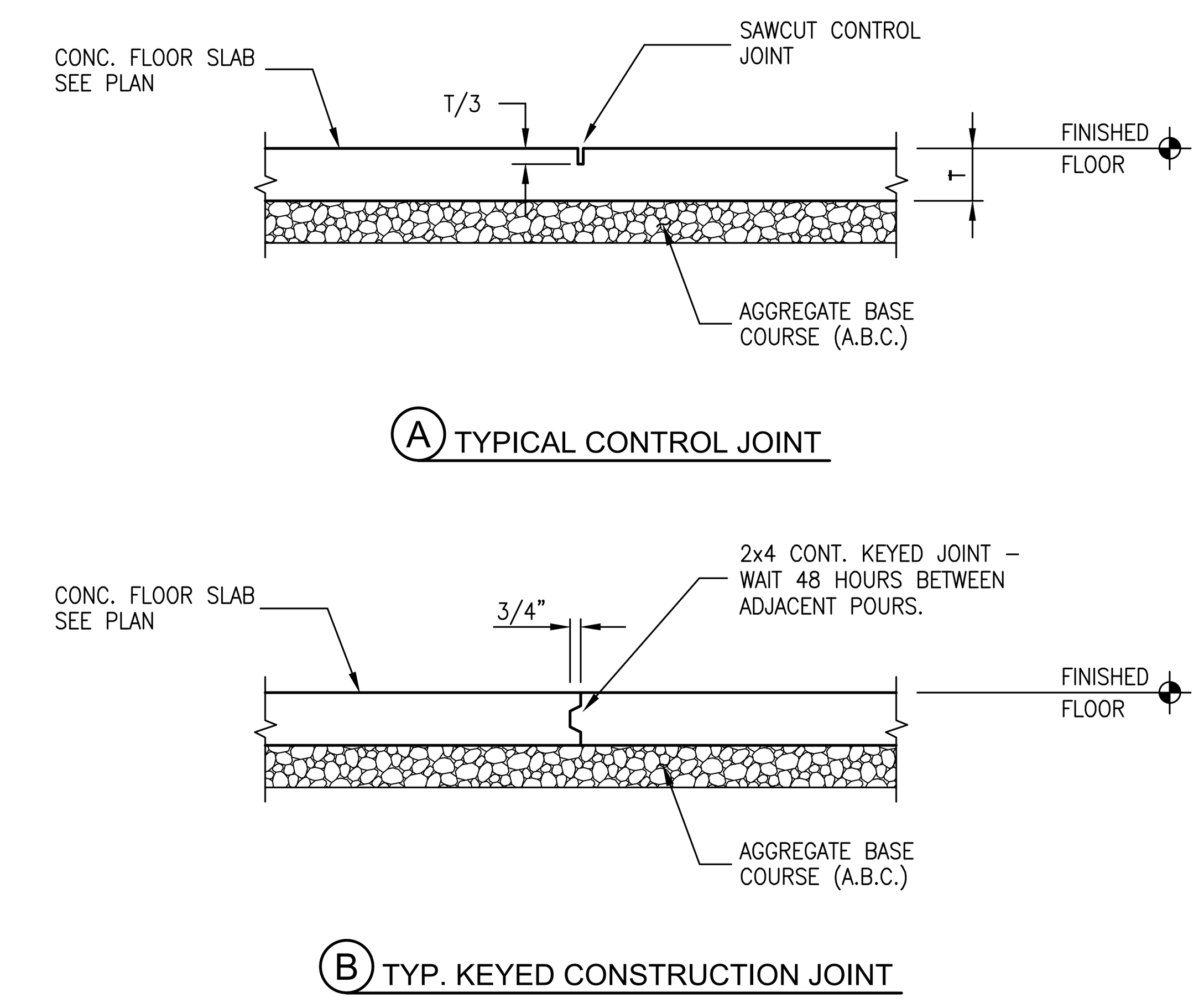
10 TYPICAL WOOD HEADER DETAIL



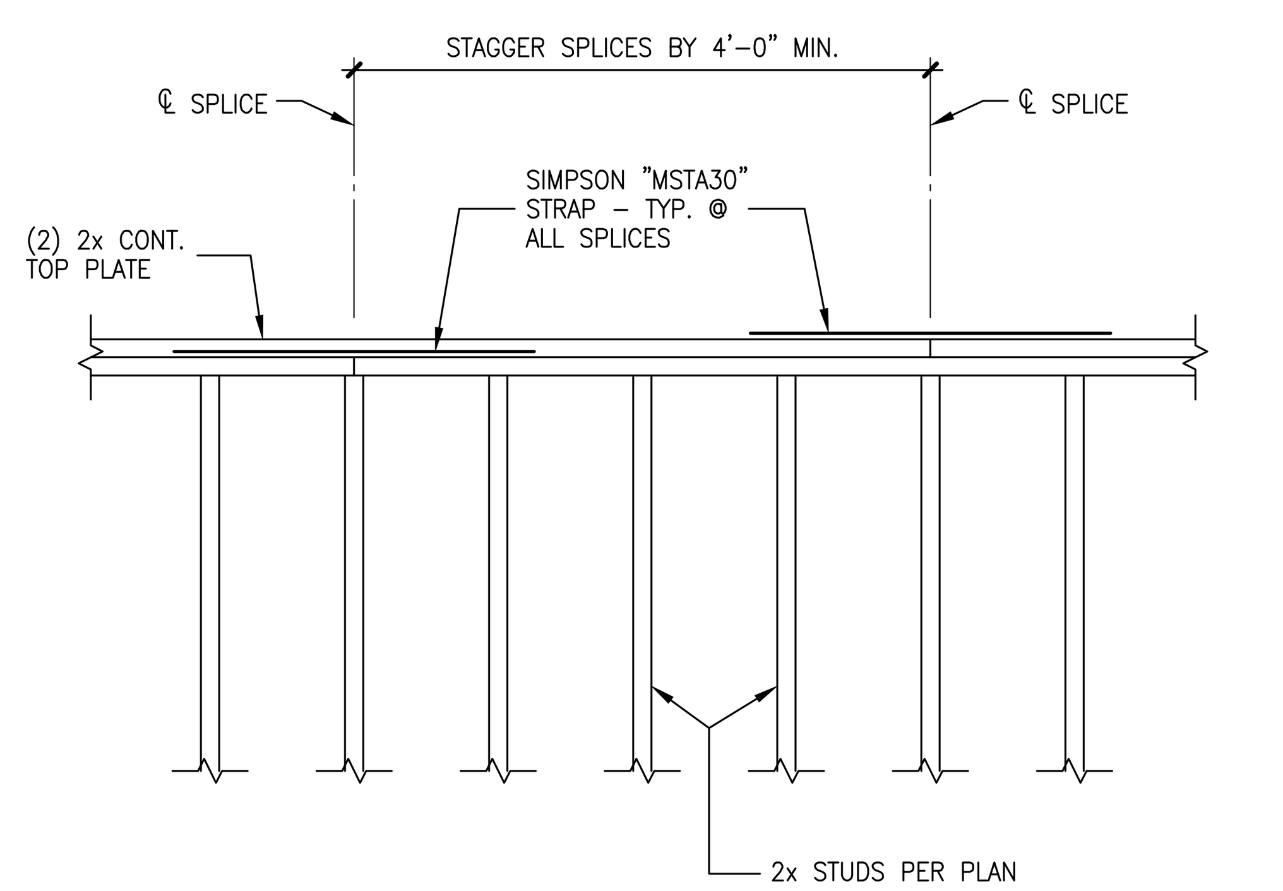
7 VERTICAL PIPES AT CONCRETE FOOTING



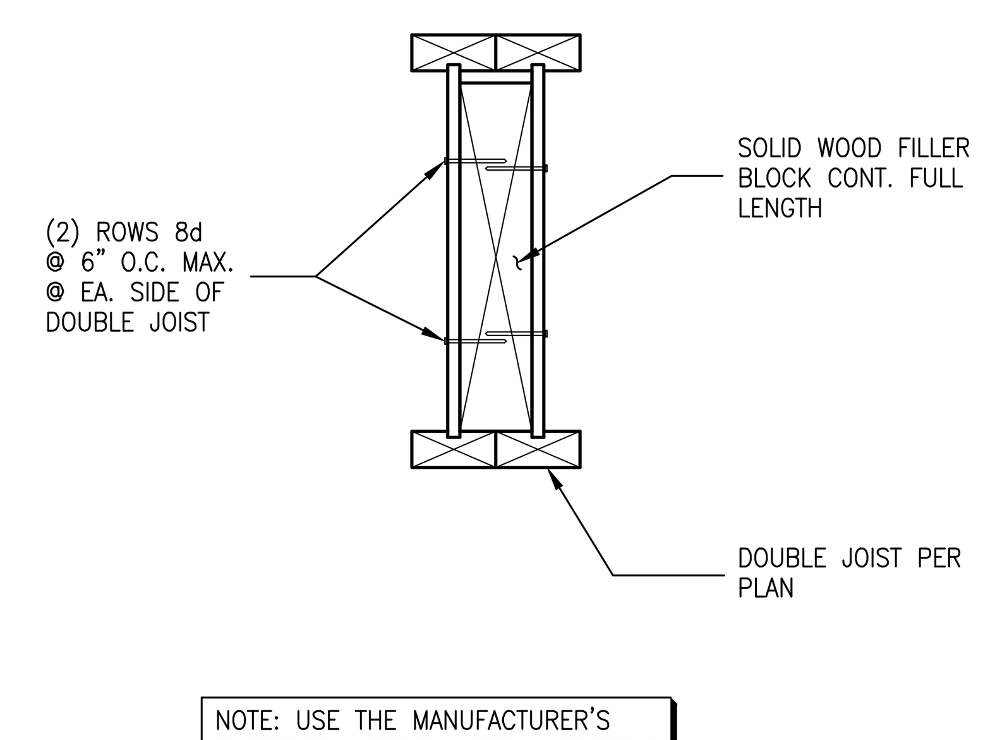
4 PIPES AT CONCRETE FOOTING



1 TYPICAL CONCRETE FLOOR JOINTS



11 TYPICAL STUD TOP PLATE SPLICE



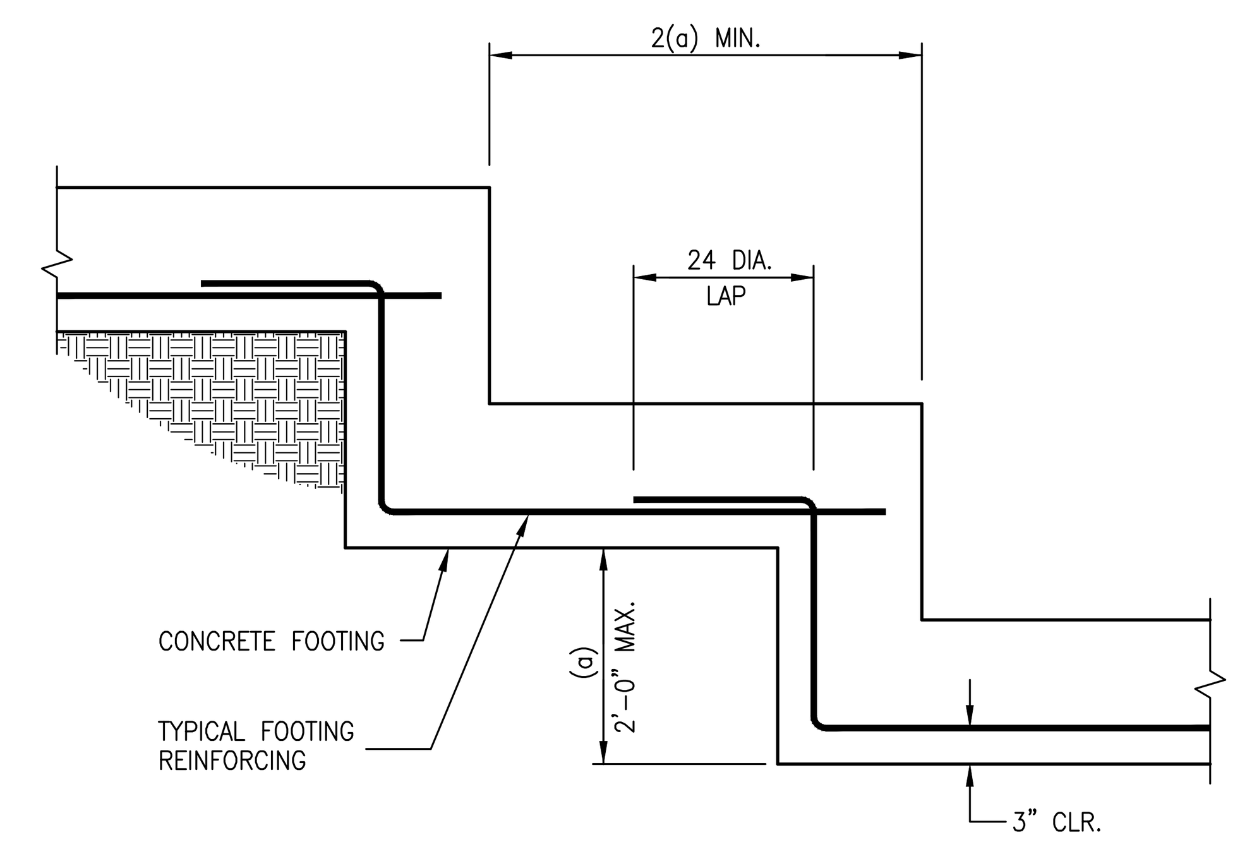
NOTE: USE THE MANUFACTURER'S STANDARD DOUBLE JOIST FASTENING DETAIL IN LIEU OF THE ABOVE AT THE CONTRACTORS OPTION.

8 TYPICAL DOUBLE JOIST CONSTRUCTION

STEEL REINFORCING LAP SCHEDULE													
CLASS B TENSION SPLICE LENGTHS												COMP. BARS	
CONC. PSI	f'c = 2500 PSI/ f'c = 3000 PSI				f'c = 4000 PSI				f'c = 5000 PSI				f'c = ALL	
BAR LOCATION	REGULAR CLASS		TOP CLASS		REGULAR CLASS		TOP CLASS		REGULAR CLASS		TOP CLASS		STD. LAP	ENCLOSED w/ SPIRAL TIES
SIZE \ SPACING	>3db	≥6db	>3db	≥6db	>3db	≥6db	>3db	≥6db	>3db	≥6db	>3db	≥6db		
#3	16"	16"	21"	21"	16"	16"	18"	18"	16"	16"	16"	16"	12"	12"
#4	22"	22"	28"	28"	19"	19"	24"	24"	17"	17"	22"	22"	15"	12"
#5	27"	27"	35"	35"	23"	23"	30"	30"	21"	21"	27"	27"	19"	14"
#6	35"	32"	46"	42"	31"	28"	40"	36"	27"	25"	36"	33"	23"	17"
#7	48"	38"	63"	49"	42"	33"	54"	42"	37"	29"	48"	38"	26"	20"
#8	63"	43"	82"	56"	55"	37"	71"	48"	49"	33"	64"	43"	30"	23"
#9	80"	48"	104"	63"	69"	42"	90"	55"	62"	38"	81"	49"	34"	25"
#10	102"	58"	132"	76"	88"	50"	114"	65"	79"	45"	102"	59"	38"	29"
#11	125"	71"	162"	93"	108"	62"	140"	80"	97"	55"	126"	72"	42"	32"

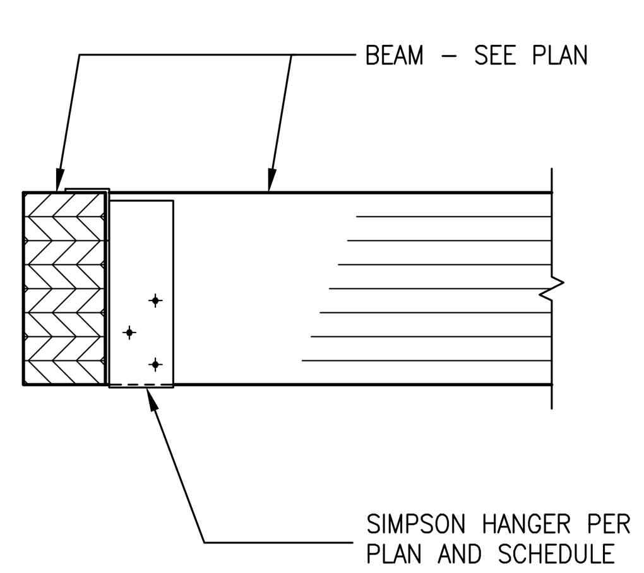
NOTES:
1. TOP BARS ARE ANY HORIZONTAL BARS PLACED SO THAT MORE THAN 12" OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE REINFORCEMENT.
2. UNLESS NOTED OTHERWISE, LAP SPLICES IN CONCRETE BEAMS, SLABS, AND WALLS SHALL BE CLASS "B" TENSION LAP SPLICES & LAP SPLICES IN CONCRETE COLUMNS SHALL COMPRESSION LAP SPLICES
3. CONTACT STRUCTURAL ENGINEER IF CENTER TO CENTER SPACING OF REINFORCING IS LESS THAN OR EQUAL TO 3 BAR DIAMETERS (<3db).

5 LAP SCHEDULE FOR REINFORCING STEEL

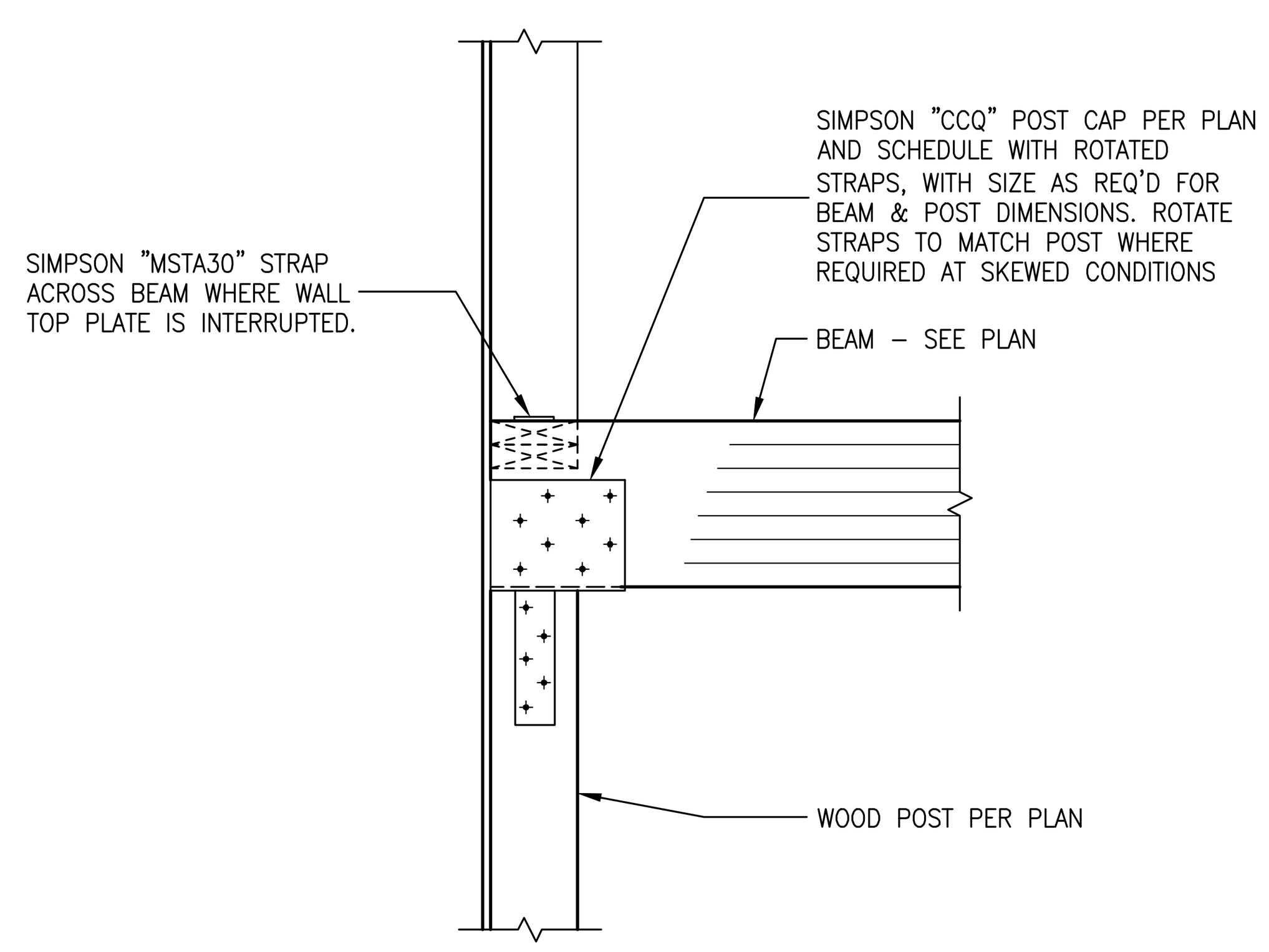


NOTE: REINFORCING MAY BE CONTINUOUS

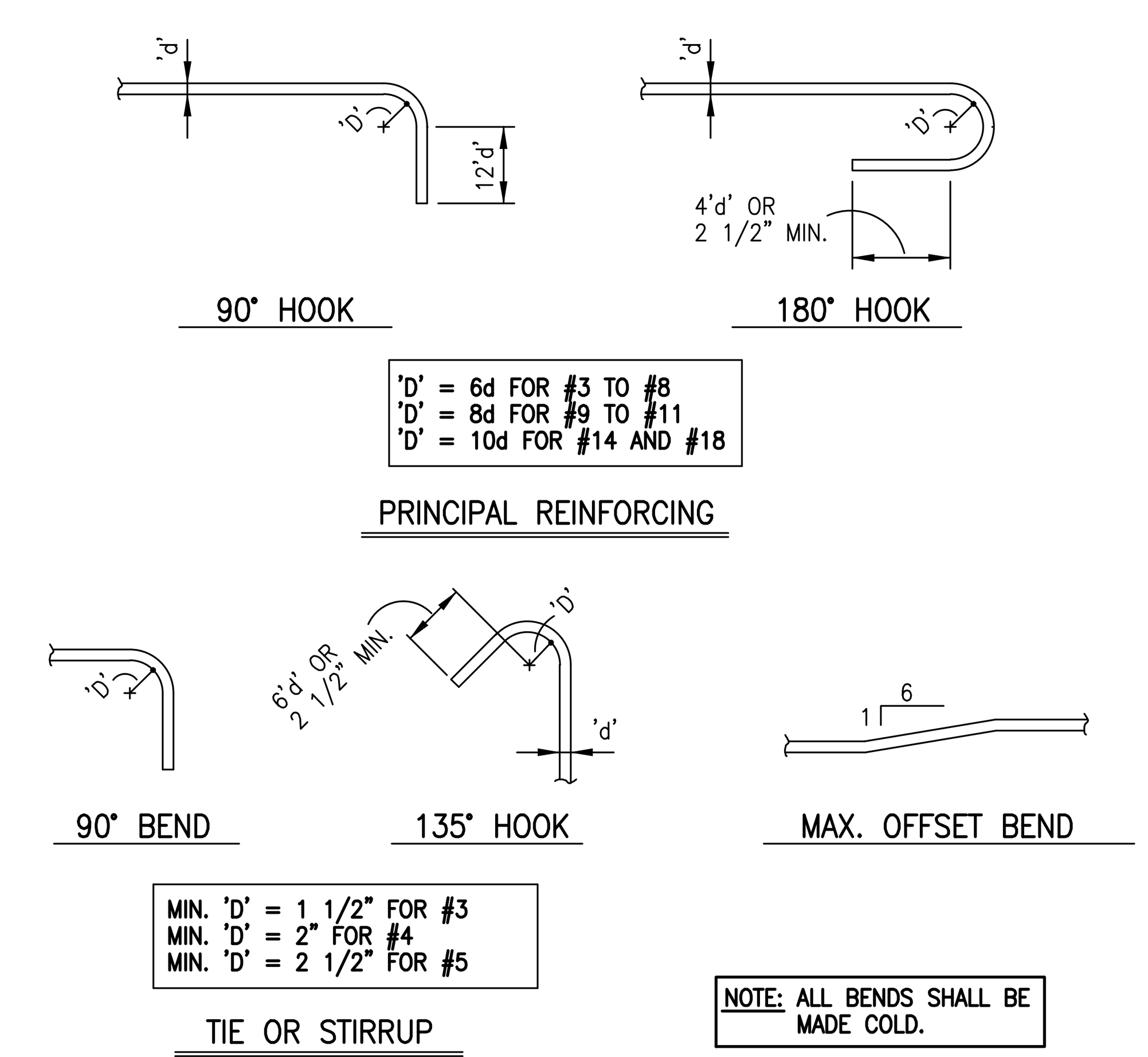
2 TYPICAL STEPPED FOOTING



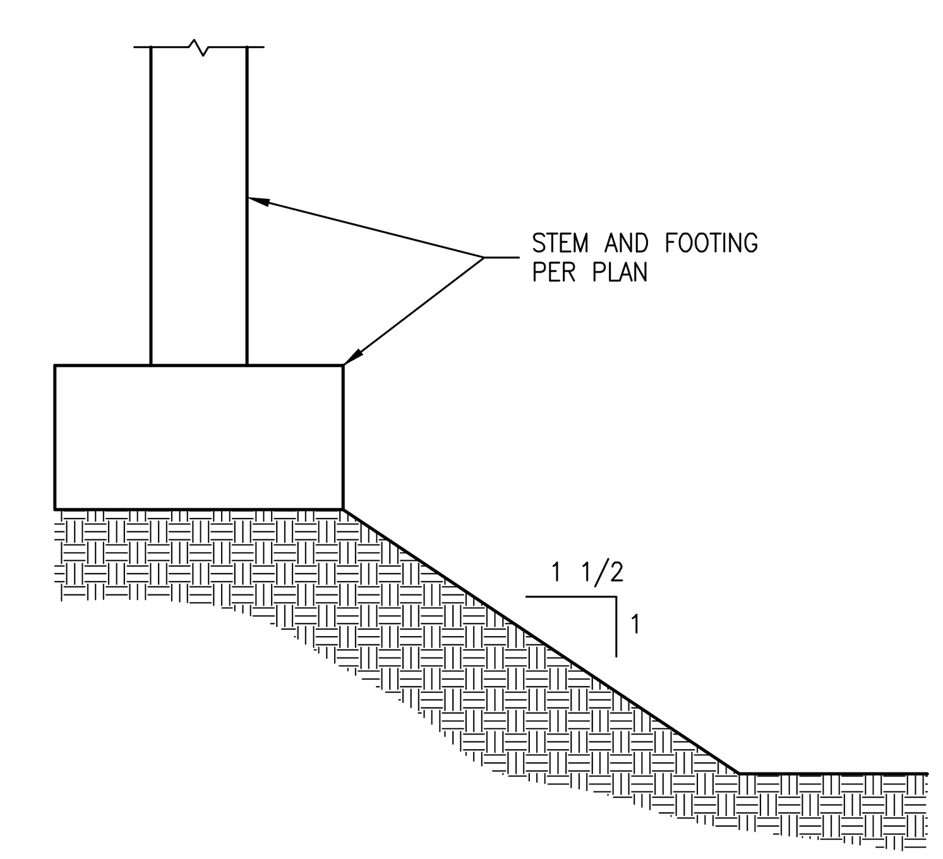
12 TYPICAL BEAM TO BEAM CONNECTION



9 TYPICAL WOOD BEAM CONN. TO WOOD POST



6 TYPICAL REINFORCING BAR BENDS



NOTE: TYPICAL FOR ALL EXCAVATION ADJACENT TO ALL WALL OR COLUMN FOOTINGS

3 EXCAVATION ADJACENT TO FOOTING

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STUDIO MA
130 N Central Avenue No.300
Phoenix, Arizona 85004
T 602 251 3800

sma project no.
16-101

sma project name
POWDERCAT

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orr powdercat th development, llc
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CIVIL
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scottsdale, az 85255
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MECH/PLBG/ELEC
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LANDSCAPE
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salt lake city, ut 84101
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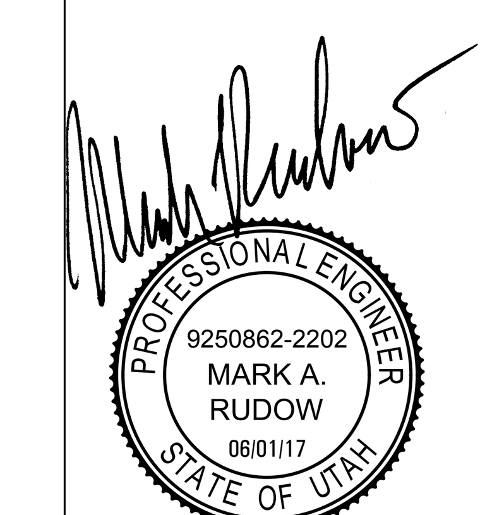

s0.11
TYPICAL DETAILS

VARIES
scale

PERMIT SET
phase / rev

2017.06.01
date

JOIST HANGER SCHEDULE

MEMBER SIZE	TOP FLANGE HANGER				FACE MOUNT HANGER			
	PERPENDICULAR CONDITION		SKEWED CONDITION		PERPENDICULAR CONDITION		SKEWED CONDITION	
	TYPE	NAILING REQUIREMENTS	TYPE	NAILING REQUIREMENTS	TYPE	NAILING REQUIREMENTS	TYPE	NAILING REQUIREMENTS
2x8	N/A	N/A	N/A	N/A	LB28	(4)16d FACE (2)10d x 1-1/2 JOIST	N/A	N/A
6x8	N/A	N/A	N/A	N/A	HUC68	(8)16d FACE (4)16d JOIST	N/A	N/A
2x10 @ ROOF EYEBROW	N/A	N/A	N/A	N/A	LSSU210	(10)10d FACE (7)10d x 1-1/2 JOIST	LSSU210	(9)10d FACE (7)10d x 1-1/2 JOIST
3x10 @ ROOF EYEBROW	N/A	N/A	N/A	N/A	LSSUH310	(18)16d FACE (12)10d x 1-1/2 JOIST	LSSUH310	(14)16d FACE (12)10d x 1-1/2 JOIST
(4)2x10	N/A	N/A	N/A	N/A	HUC88	(10)16d FACE (4)16d JOIST	N/A	N/A
4x10	HU410TF	(14)16d TOP (6)10d JOIST	HU410TF	(14)16d TOP (6)10d JOIST	N/A	N/A	N/A	N/A
6x8	HU68TF	(12)16d TOP (4)10d JOIST	N/A	N/A	HUC68 @ POST	(10)16d x 2-1/2 FACE (4)10d JOIST	N/A	N/A
3 1/8x9 GLB @ RF EYEBROW	N/A	N/A	N/A	N/A	LSSU410	(18)16d FACE (12)10d x 1-1/2 JOIST	LSSU410	(14)16d FACE (12)10d x 1-1/2 JOIST
14" RED-I45	ITS1.81/14	(4)10d x 1.5" TOP (2)10d x 1.5" FACE	LBV1.81/14	(6)16d x 2.5" TOP (4)16d x 2.5" FACE (2)10d x 1.5" JOIST	MIU1.81/14	(22)16d FACE (2)10d x 1.5" JOIST	N/A	N/A
(2) 14" RED-I45	N/A	N/A	N/A	N/A	MIU3.56/14	(22)16d FACE (2)10d x 1.5" JOIST	N/A	N/A
3 1/8x13 1/2 GLB	GLT3	(10)N54A HEADER (6)N54A JOIST	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:
1. PROVIDE WEB STIFFENERS BOTH SIDES OF ALL RED-I JOISTS AT HANGERS.
2. PROVIDE PERPENDICULAR OR SKEWED HANGERS AS REQUIRED BY THE CONDITIONS AT EACH SPECIFIC HANGER LOCATION. COORDINATE SKEW ANGLE REQUIRED AT EACH LOCATION WITH THE PLAN DIMENSIONS, GEOMETRY, AND JOIST LAYOUT..
3. "TOP" DENOTES NAILING INTO TOP OF SUPPORTING MEMBER THRU HANGER TOP FLANGE.
4. "FACE" DENOTES NAILING INTO SIDE OF SUPPORTING MEMBER THRU HANGER SIDE FLANGES.
5. "JOIST" DENOTES NAILING INTO SIDES OF SUPPORTED JOIST THRU SIDES OF HANGER.
6. "HEADER" DENOTES COMBINATION OF "FACE" AND "TOP" PER MANUFACTURER REQUIREMENTS.
7. HANGERS INDICATED ARE TO BE BY SIMPSON STRONG-TIE. ALTERNATE HANGER MANUFACTURER'S WILL BE CONSIDERED UPON SUBMITTAL OF ALTERNATE HANGER MANUFACTURER'S LOAD AND NAILING LITERATURE, ALONG WITH A WRITTEN COMPARISON OF THE PROPOSED HANGER AND NAILING AT EACH LOCATION, AND THE RESULTING PROPOSED HANGER UPLIFT AND DOWNWARD CAPACITY AS COMPARED TO THE CAPACITY OF THE SPECIFIED HANGER AND NAILING. SUBMITTALS THAT DO NOT HAVE ALL OF THE INDICATED INFORMATION WILL BE REJECTED. ALTERNATE MANUFACTURER'S PRODUCTS SHOULD NOT BE USED PRIOR TO RECEIVING ENGINEER APPROVAL OF THE SUBMITTED ALTERNATES.
8. SEE DETAIL 8/S0.11 FOR TYPICAL DOUBLE JOIST CONSTRUCTION.
9. PROVIDE SOLID WOOD SHIM EA. SIDE OF JOIST WHERE HANGER WIDTH IS WIDER THAN JOIST WIDTH WHERE REQUIRED.
10. ALL HANGERS TO HAVE SLOPED SEATS AS REQUIRED TO MATCH JOIST SLOPE.

POST SCHEDULE

MARK	SIZE	BASE CONNECTION
P1	4x4 D.FIR #1	OPTION 1: (4)16d FACE NAILS THRU SILL PLATE (PRIOR TO ERECTING WALL). OPTION 2: SIMPSON "A34" EACH SIDE OF POST. OPTION 3: (2)16d TOENAILS TO SILL PLATE EA. SIDE OF POST.
P2	6x8 D.FIR #1	OPTION 1: (4)16d FACE NAILS THRU SILL PLATE (PRIOR TO ERECTING WALL). OPTION 2: SIMPSON "A34" EACH SIDE OF POST. OPTION 3: (2)16d TOENAILS TO SILL PLATE EA. SIDE OF POST.
P3	8x8 D.FIR #1	OPTION 1: (6)16d FACE NAILS THRU SILL PLATE (PRIOR TO ERECTING WALL). OPTION 2: SIMPSON "A34" EACH SIDE OF POST. OPTION 3: (3)16d TOENAILS TO SILL PLATE EA. SIDE OF POST.
P4	BUILT-UP POST PER SHEARWALL ELEV's	SEE DETAIL 6/S2.12
P5	6x6 D.FIR #1	OPTION 1: (6)16d FACE NAILS THRU SILL PLATE (PRIOR TO ERECTING WALL). OPTION 2: SIMPSON "A34" EACH SIDE OF POST. OPTION 3: (3)16d TOENAILS TO SILL PLATE EA. SIDE OF POST.

NOTES:
1. ALL POSTS CONTINUE FULL HEIGHT ABOVE LEVEL WHERE CALLED OUT. SPLICE AT FLOOR LEVELS PER ELEVATIONS AND DETAILS.
2. SEE WALL ELEVATIONS FOR POSTS NOT CALLED OUT ON PLAN.
3. WHERE 6x8 AND 8x8 POSTS OCCUR IN WALLS, RIP POST WIDTH TO MATCH WALL STUD WIDTH.

WALL FOOTING SCHEDULE

MARK	SIZE	REINFORCING	REMARKS
WF1	1'-8" x 12" THICK	(2) #5 CONT.	TYPICAL U.N.O.
WF2	2'-0" x 12" THICK	(2) #5 CONT.	
WF3	3'-0" x 12" THICK	(3) #5 LONGIT. CONT. #5 @ 16" O.C. TRANS.	
WF4	4'-0" x 12" THICK	(4) #5 LONGIT. CONT. #5 @ 16" O.C. TRANS.	
WF5	5'-0" x 12" THICK	(5) #5 LONGIT. CONT. #5 @ 14" O.C. TRANS.	
WF6	6'-0" x 12" THICK	(5) #6 LONGIT. CONT. #6 @ 14" O.C. TRANS.	
WF7	5'-0" x 12" THICK	(5) #5 LONGIT. CONT. #5 @ 10" O.C. TRANS.	
WF8	4'-0" x 12" THICK	(4) #5 LONGIT. CONT. #5 @ 10" O.C. TRANS.	

SHEARWALL SCHEDULE

SW2 — SHEATHING AND ATTACHMENT MARK
DENOTES SHEARWALL

MARK	SHEATHING & ATTACHMENT	TYPICAL SILL PLATE ATTACHMENT
SW1	1/2" NOMINAL RATED SHEATHING PER G.S.N. ONE SIDE OF WALL WITH 8d NAILS @ 6" O.C. @ PANEL EDGES AND 8d NAILS @ 12" O.C. @ INTERMEDIATE SUPPORTS.	1/2"ø J-BOLT ANCHORS WITH 1-1/2" HOOK AND MIN. 6" EMBEDMENT, SPACED AT 32" O.C. MAX.
SW2	5/8" NOMINAL RATED SHEATHING PER G.S.N. AT OUTSIDE FACE OF WALL WITH 10d NAILS @ 4" O.C. @ PANEL EDGES AND 10d NAILS @ 12" O.C. @ INTERMEDIATE SUPPORTS.	1/2"ø J-BOLT ANCHORS WITH 1-1/2" HOOK AND MIN. 6" EMBEDMENT, SPACED AT 16" O.C. MAX.
SW3	5/8" NOMINAL RATED SHEATHING PER G.S.N. BOTH SIDES OF WALL WITH 10d NAILS @ 6" O.C. @ PANEL EDGES AND 10d NAILS @ 12" O.C. @ INTERMEDIATE SUPPORTS.	1/2"ø J-BOLT ANCHORS WITH 1-1/2" HOOK AND MIN. 6" EMBEDMENT, SPACED AT 16" O.C. MAX.
SW4	5/8" NOMINAL RATED SHEATHING PER G.S.N. BOTH SIDES OF WALL WITH 10d NAILS @ 3" O.C. @ PANEL EDGES AND 10d NAILS @ 12" O.C. @ INTERMEDIATE SUPPORTS.	SEE SHEAR WALL ELEVATIONS
SW5	5/8" NOMINAL RATED SHEATHING PER G.S.N. BOTH SIDES OF WALL WITH 10d NAILS @ 2" O.C. @ PANEL EDGES AND 10d NAILS @ 12" O.C. @ INTERMEDIATE SUPPORTS.	SEE SHEAR WALL ELEVATIONS

SHEARWALL NOTES:

1. ALL INTERIOR DEMISING WALLS ARE TO HAVE SHEATHING TYPE "SW1" WITH THE SHEATHING LOCATED ON THE UNIT SIDE OF THE WALL.
2. WALLS ON GRIDS "1", "4", "5", "9", "10" AND "13" ARE TO HAVE SHEATHING TYPE "SW3".
3. FAR SOUTH WALLS OF ALL UNITS (APPROX. GRID "D") ARE TO HAVE SHEATHING TYPE "SW2".
4. SEE WALL ELEVATIONS FOR SHEATHING REQUIREMENTS AT WALLS ON GRIDS "A" AND "C".
5. EXTEND SHEATHING NOTED FOR THE FULL LENGTH OF THE WALL SHOWN ON THE PLANS.
6. SHEATHING TYPE INDICATED IS TO OCCUR FULL HEIGHT FROM THE BASE OF THE WALL TO THE ROOF OR FLOOR LEVEL AT THE TOP OF THE WALL.
7. EDGE NAIL SPACING APPLIES TO FASTENING AT SHEATHING PANEL EDGES AT ALL STUDS, TOP AND BOTTOM PLATES AND BLOCKING.
8. ALL PANEL EDGES ARE TO BE BLOCKED AND NAILED AT ALL SHEAR WALLS.
9. ALL STUDS, BLOCKING, AND TOP AND BOTTOM PLATES AT WALL TYPES "SW4" AND "SW5" ARE TO BE 3x MATERIAL WITH WIDTH EQUAL TO THE WALL WIDTH AT THE LOCATION NOTED. IN ADDITION, ALL NAILING AT ABUTTING PANEL EDGES SHALL BE STAGGERED. (1)
10. SEE WALL ELEVATIONS FOR SHEAR WALL SHEATHING TYPE AND EXTENT AT WALLS NOT INDICATED ON THE PLANS OR IN THESE NOTES.
11. SEE ARCHITECTURAL DRAWINGS FOR SHEATHING REQUIREMENTS AT ALL WALLS THAT ARE NOT NOTED AS SHEAR WALLS OR OTHERWISE INDICATED IN THIS SCHEDULE.
12. SEE GENERAL STRUCTURAL NOTES FOR ADDITIONAL REQUIREMENTS.

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s0.12
SCHEDULES

NO SCALE
scale

(1)

PERMIT SET
phase / rev

2017.06.01
date

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VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REFERENCED STANDARD[a]
1. Inspection of welding:			
a. Reinforcing steel:			
1) Verification of weldability of reinforcing steel other than ASTM A706.	--	X	AWS D1.4 ACI 318: Section 3.5.2
2) Reinforcing steel resisting flexural and axial forces in intermediate and special moment frames, and boundary elements of special structural wallls of concrete and shear reinforcement.	X	--	

For SI: 1 inch = 25.4 mm.
a. Where applicable, see also Section 1705.11, Special inspections for seismic resistance.

3 INSPECTION REQUIREMENTS AT OTHER STEEL CONSTRUCTION ELEMENTS

2012 IBC, Table 1705.2.2

TABLE 1705.3
REQUIRED VERIFICATION AND INSPECTION OF CONCRETE CONSTRUCTION

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REFERENCED STANDARD[a]	IBC REFERENCE
1. Inspection of reinforcing steel and placement.	--	X	ACI 318: 3.5, 7.1-7.7	1910.4
2. Inspection of reinforcing steel welding in accordance with Table 1705.2.2, Item 2b.	--	--	AWS D1.4 ACI 318: 3.5.2	--
3. Inspection of anchors cast in concrete where allowable loads have been increased or where strength design is used.	--	X	ACI 318: 8.1.3, 21.2.8	1908.5, 1909.1
4. Inspection of anchors post-installed in hardened concrete members[a].	--	X	ACI 318: 3.8.6, 8.1.3, 21.2.8	1909.1
5. Verifying use of required design mix.	--	X	ACI 318: CH. 4, 5.2-5.4	1904.2, 1910.2, 1910.3
6. At the time fresh concrete is sampled to fabricate specimens for strength tests, perform slump and air content tests, and determine the temperature of the concrete.	X	--	ASTM C 172 ASTM C 31 ACI 318: 5.6, 5.8	1910.10
7. Inspection of concrete placement for proper application techniques	X	--	ACI 318: 5.9, 5.10	1910.6, 1910.7, 1910.8
8. Inspection for maintenance of specified curing tempaerature and techniques.	--	X	ACI 318: 5.11-5.13	1910.9
9. Inspect formwork for shape, location and dimensions of the concrete member being formed.	--	X	ACI 318: 6.1.1	--

a. Specific requirements for special inspection shall be included in the research report for the anchor issued by an approved source in accordance with ACI 355.2 or other qualification procedures.

4 INSPECTION REQUIREMENTS FOR CONCRETE CONSTRUCTION

2012 IBC, Table 1705.3

VERIFICATION AND INSPECTION TASK	CONTINUOUS DURING TASK LISTED	PERIODICALLY DURING TASK LISTED
1. Verify materials below shallow foundations are adequate to achieve the design bearing capacity.	--	X
2. Verify excavations are extended to proper depth and have reached proper material.	--	X
3. Perform classification and testing of compacted fill materials.	--	X
4. Verify use of proper materials, densities and lift thickness during placement and compaction of compacted fill.	X	--
5. Prior to placement of compacted fill, observe subgrade and verify that site has been prepared properly.	--	X

5 GEOTECHNICAL INSPECTION REQUIREMENTS

2012 IBC, Table 1705.6

TABLE N5.4-1
Inspection Tasks Prior to Welding

INSPECTION TASKS PRIOR TO WELDING	CONT.	PERIODIC
Welding procedure specifications (WPSs) available	X	--
Manufacturer certifications for welding consumables available	X	--
Material identification (type/grade)	--	X
Welder identification system[1]	--	X
Fit-up of groove welds (including joint geometry) • Joint preparation • Dimensions (alignment, root opening, root face, bevel) • Cleanliness (condition of steel surfaces) • Tacking (tack weld quality and location) • Backing type and fit (if applicable)	--	X
Configuration and finish of access holes	--	X
Fit-up of fillet welds • Dimensions (alignment, gaps at root) • Cleanliness (condition of steel surfaces) • Tacking (tack weld quality and location)	--	X
Check welding equipment	--	X

[1]The fabricator or erector, as applicable, shall maintain a system by which a welder who has welded a joint or member can be identified. Stamps, if used, shall be the low-stress type.

TABLE N5.4-2
Inspection Tasks During Welding

INSPECTION TASKS DURING WELDING	CONT.	PERIODIC
Use of qualified welders	--	X
Control and handling of welding consumables • Packaging • Exposure control	--	X
No welding over cracked tack welds	--	X
Environmental conditions • Wind speed within limits • Precipitation and temperature	--	X
WPS followed • Settings on welding equipment • Travel speed • Selected welding materials • Sheilding gas type/flow rate • Preheat applied • Interpass temperature maintained (min./max.) • Proper position (F, V, H, OH)	--	X
Welding Techniques • Interpass and final cleaning • Each pass within profile limitations • Each pass meets quality requirements	--	X

TABLE N5.4-3
Inspection Tasks After Welding

INSPECTION TASKS AFTER WELDING	CONT.	PERIODIC
Welds cleaned	--	X
Size, length and location of welds	X	--
Welds meet visual acceptance criteria • Crack prohibition • Weld/base-material fusion • Crater cross section • Weld profiles • Weld size • Undercut • Porosity	X	--
Arc strikes	X	--
k-area[1]	X	--
Backing removed and weld tabs removed (if required)	X	--
Repair activities	X	--
Document acceptance or rejection of welded joint or member	X	--

[1] When welding of doubler plates, continuity plates or stiffners has been performed in the *k*-area, visually inspect the web *k*-area for cracks within 3 in. (75 mm) of the weld.

1 INSPECTION REQUIREMENTS FOR STRUCTURAL STEEL WELDING

AISC 360-10, Table N5.4

TABLE N5.6-1
Inspection Tasks Prior to Bolting

INSPECTION TASKS PRIOR TO BOLTING	CONT.	PERIODIC
Manufacturer's certifications available for fastener materials	X	--
Fasteners marked in accordance with ASTM requiements	--	X
Proper fasteners selected for the joint detail (grade, type, bolt length if theads are to be excluded from shear plane)	--	X
Proper bolting procedure selected for joint detail	--	X
Connecting elements, including the appropriate faying surface condition and hole preparation, if specified, meet applicable requirements	--	X
Pre-installation verification testing by installation personnel observed and documented for fastener assemblies and methods used	--	X
Proper storage provided for bolts, nuts, washers and other fastener components	--	X

TABLE N5.6-2
Inspection Tasks During Bolting

INSPECTION TASKS DURING BOLTING	CONT.	PERIODIC
Fastener assemblies, of suitable condition, placed in all holes and washers (if required) are positioned as required	--	X
Joint brought to the snug-tight condition prior to the pretensioning operation	--	X
Fastener component not turned by the wrench prevented from rotating	--	X
Fasteners are pretensioned in accordance with the RCSC Specification, progressing systematically from the most rigid point toward the free edges	--	X

TABLE N5.6-3
Inspection Tasks After Bolting

INSPECTION TASKS AFTER BOLTING	CONT.	PERIODIC
Document acceptance or rejection of bolted connections	X	--

2 INSPECTION REQUIREMENTS FOR STRUCTURAL STEEL BOLTING

AISC 360-10, Table N5.6

Structural Statement of Special Inspections

This Statement of Special Inspections encompasses the following discipline: Structural

This Statement of Special Inspections is submitted as a condition for permit issuance in accordance with the Special Inspection and Structural Testing requirements of the 2015 International Building Code. It includes a schedule of Special Inspection services and tests applicable to this project.

The owner or owner's authorized agent, other than the contractor, shall employ one or more Approved Agencies to provide special structural inspections and tests during construction as required following. All Approved Agencies shall meet the independence, equipment and personnel requirements of IBC section 1703.1. Each Approved Agency shall provide written documentation to the Building Official as described in IBC section 1704.2.1 for review and approval by the Building Official prior to issuance of a building permit.

The contractor shall review the inspections required in the tables below and shall submit a written statement of responsibility to the Building Official in accordance with IBC section 1704.4 The contractor shall be responsible for coordinating with the Approved Agencies regarding the inspections required, and shall be responsible for scheduling inspections with the Approved Agencies. The contractor shall maintain access to all items requiring inspection in accordance with IBC section 1704.2.2. The Special Inspection program does not relieve the Contractor of his or her responsibilities.

The Approved Agencies shall maintain records of the special inspections and tests and shall submit reports of such to the Building Official and to the Structural Engineer of Record in a timely fashion. Interim reports shall be submitted to the Building Official and the Structural Engineer of Record at an interval determined by the Building Official, but not less frequently than on a weekly basis. Reports shall be in accordance with IBC section 1704.2.4 with discrepancies handled described as noted therein. All discrepancies that are not corrected in a timely fashion shall be promptly brought to the attention of the Building Official and the Structural Engineer of Record. A final report as described in IBC section 1704.2.4 shall be submitted to the Building Official and to the Structural Engineer of Record.

Job site safety and means and methods of construction are solely the responsibility of the Contractor.

INSPECTIONS FOR SEISMIC RESISTANCE

Main Seismic Force Resisting System Description (MSFRS): The MSFRS consists of horizontal wood-sheathed roof and floor diaphragms with nailing requirements as specified in the structural notes and on the structural plans and details. Horizontal straps collect and transfer loads to the shear walls, and are indicated on the plans and details. The floor and roof diaphragms are laterally supported by wood-sheathed shear walls as noted on the plans and in the shear wall schedule. Most shear walls have hold-downs near the ends of the wall segments. Some hold-downs consists of rectangular steel posts built into the walls and connected to the walls by wood framing on both sides of the posts. Other shear wall hold-downs include vertical strap ties and/or tension rods. All hold-downs and their connections to the foundations walls and footings are specified on the plans, details, and wall elevations and in the structural notes.

In addition to the inspections listed in the tables following, periodic special inspection shall be required for nailing, bolting, anchoring and other fastening of elements of the seismic force-resisting system, including wood shear walls, wood diaphragms including blocking where specified, horizontal strapping at shear wall lines, hold-downs, and anchorage to foundation walls and footings.

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s0.13
SPECIAL INSPECTION STATEMENT

NONE
scale

PERMIT SET
phase / rev

2017.06.01
date

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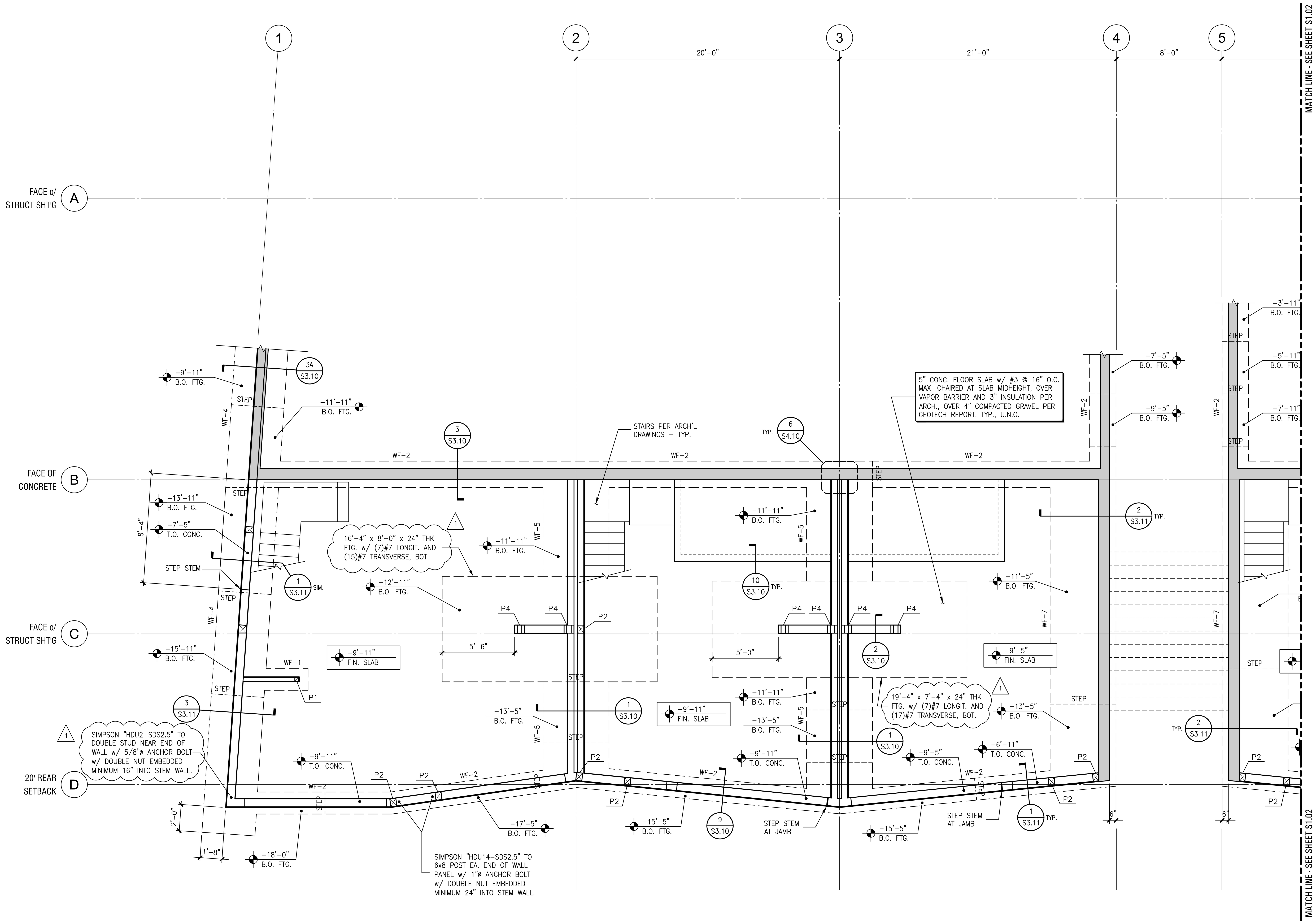

FOUNDATION PLAN NOTES:

1. SEE SHEETS S0.10 & S0.11 FOR:
   - A. GENERAL STRUCTURAL NOTES
   - B. TYPICAL EXCAVATION ADJACENT TO FOOTING
   - C. TYPICAL SLAB JOINT DETAILS
   - D. TYPICAL STEPPED FOOTING DETAIL
2. P1 – DENOTES WOOD POST MARK – SEE SCHED. ON SHEET S0.12.
3. WF1 – DENOTES WALL FOOTING MARK – SEE SCHED. ON SHEET S0.12.
4. SW1 – DENOTES SHEARWALL SHEATHING PER SCHED. ON SHEET S0.12.
5. ALL SLABS ON GRADE ARE TO BE JOINTED AS SHOWN. PROVIDE (2) #4 x 4'–0" MID–HEIGHT SLAB BARS ADJACENT TO ALL DISCONTINUOUS JOINT LOCATIONS. ALL COLUMN ISOLATION JOINT CORNERS ARE TO BE INTERSECTED BY A SLAB JOINT OR REINFORCED WITH SLAB BARS PER ABOVE.
6. CONTRACTOR TO VERIFY ALL DIMENSIONS AND ELEVATIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION. SEE ARCHITECTURAL FOR ALL DIMENSIONS, SLAB SLOPES & DEPRESSIONS NOT NOTED.
7. SEE ARCH'L DRAWINGS FOR ALL DIMENSIONS NOT INDICATED.
8. FIN. FLR. DATUM: +0'–0" = 8600.5'

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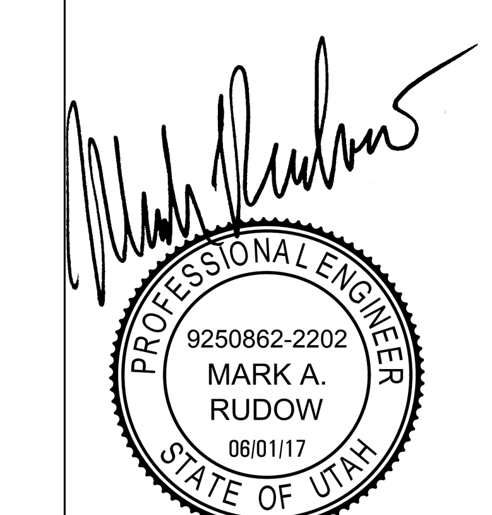

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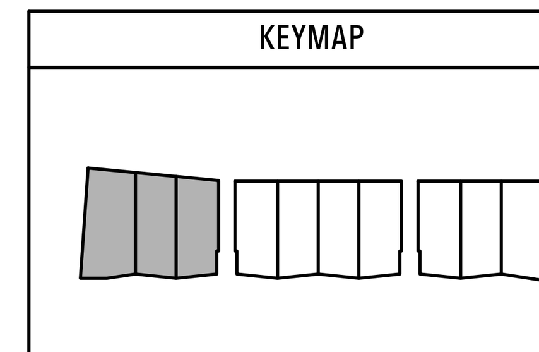
KEYMAP



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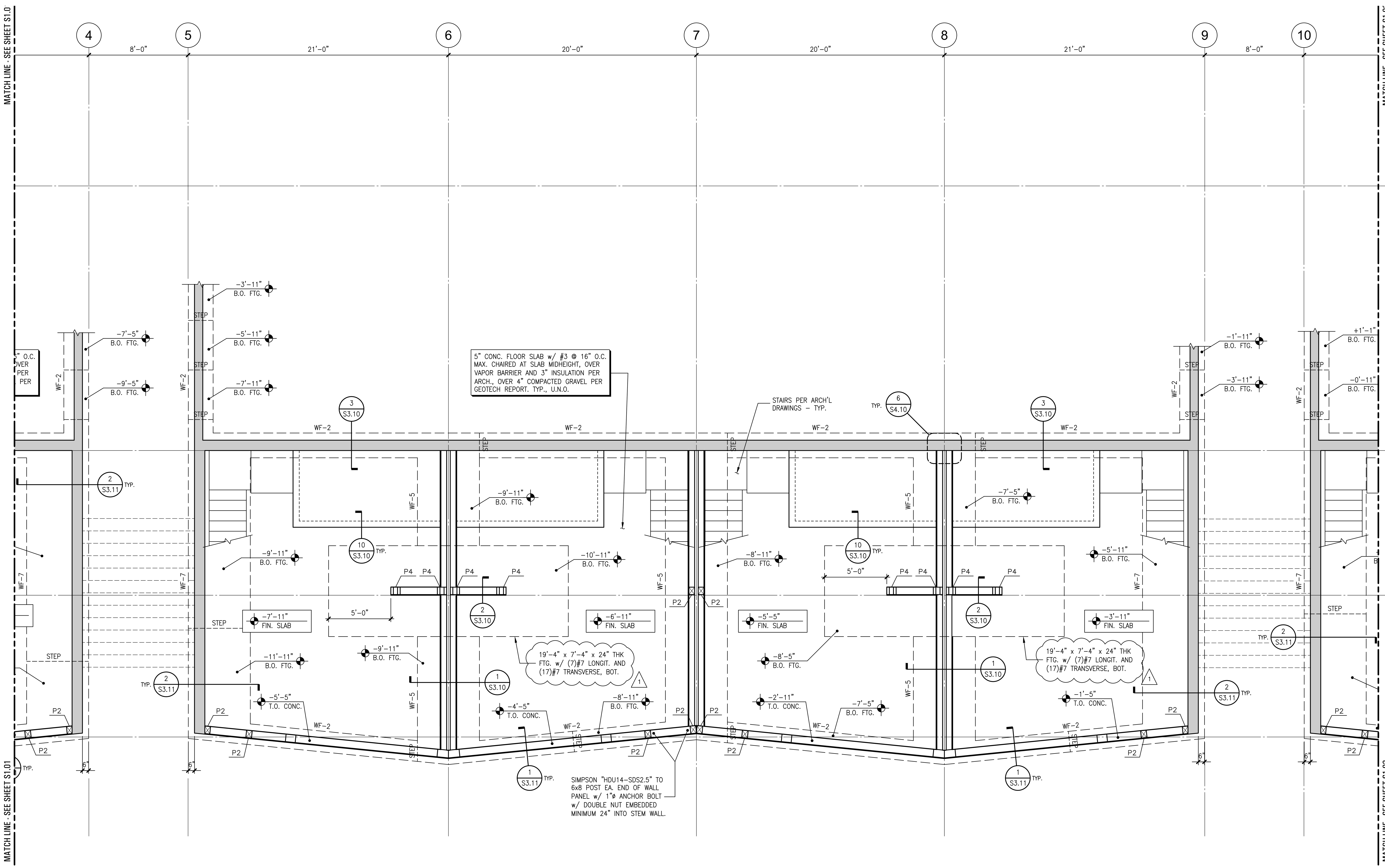
date

SEE SHEET S1.01 FOR TYPICAL PLAN NOTES



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FOUNDATION PLAN LOWER LEVEL

KEYMAP

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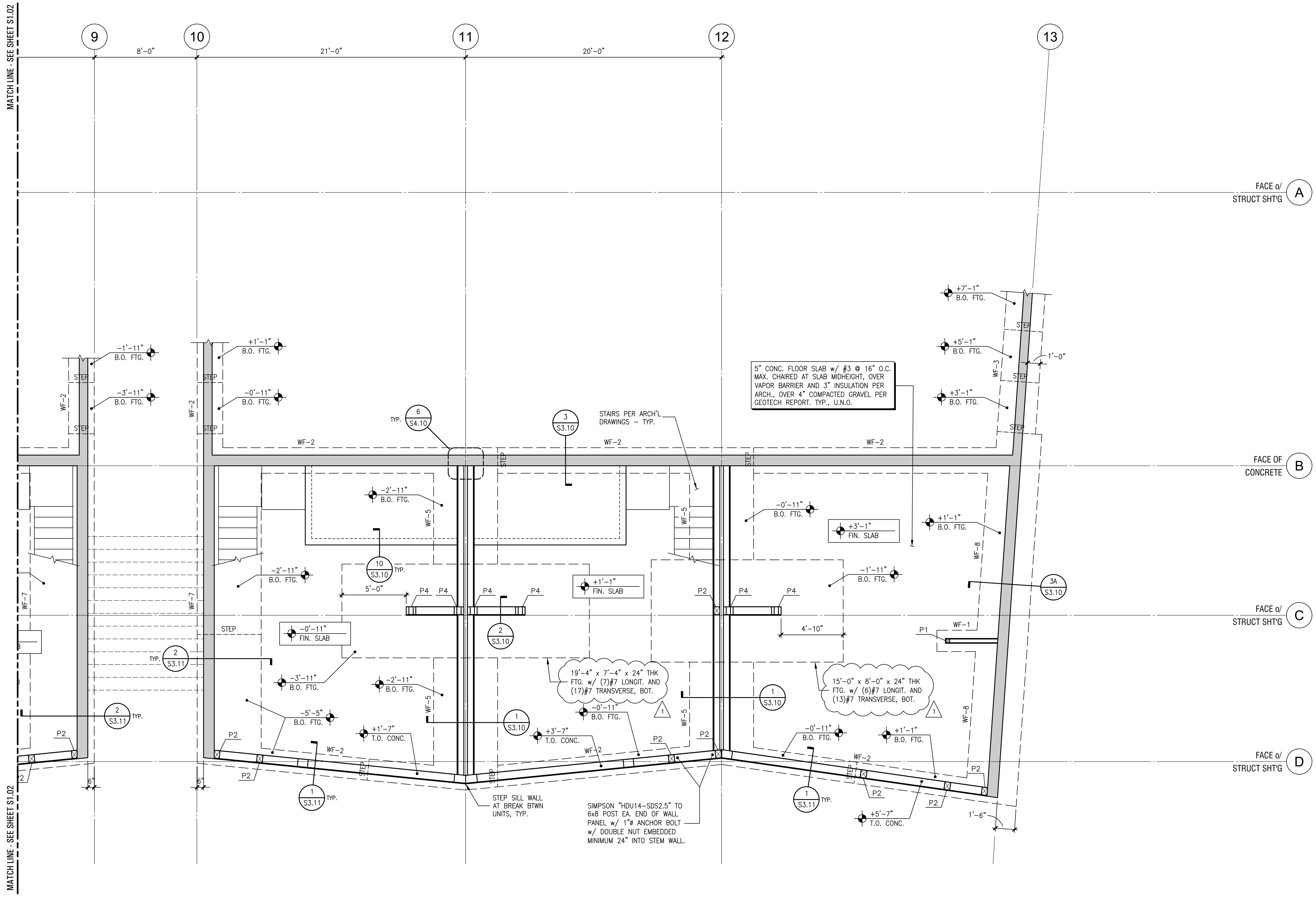

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FOUNDATION PLAN LOWER LEVEL

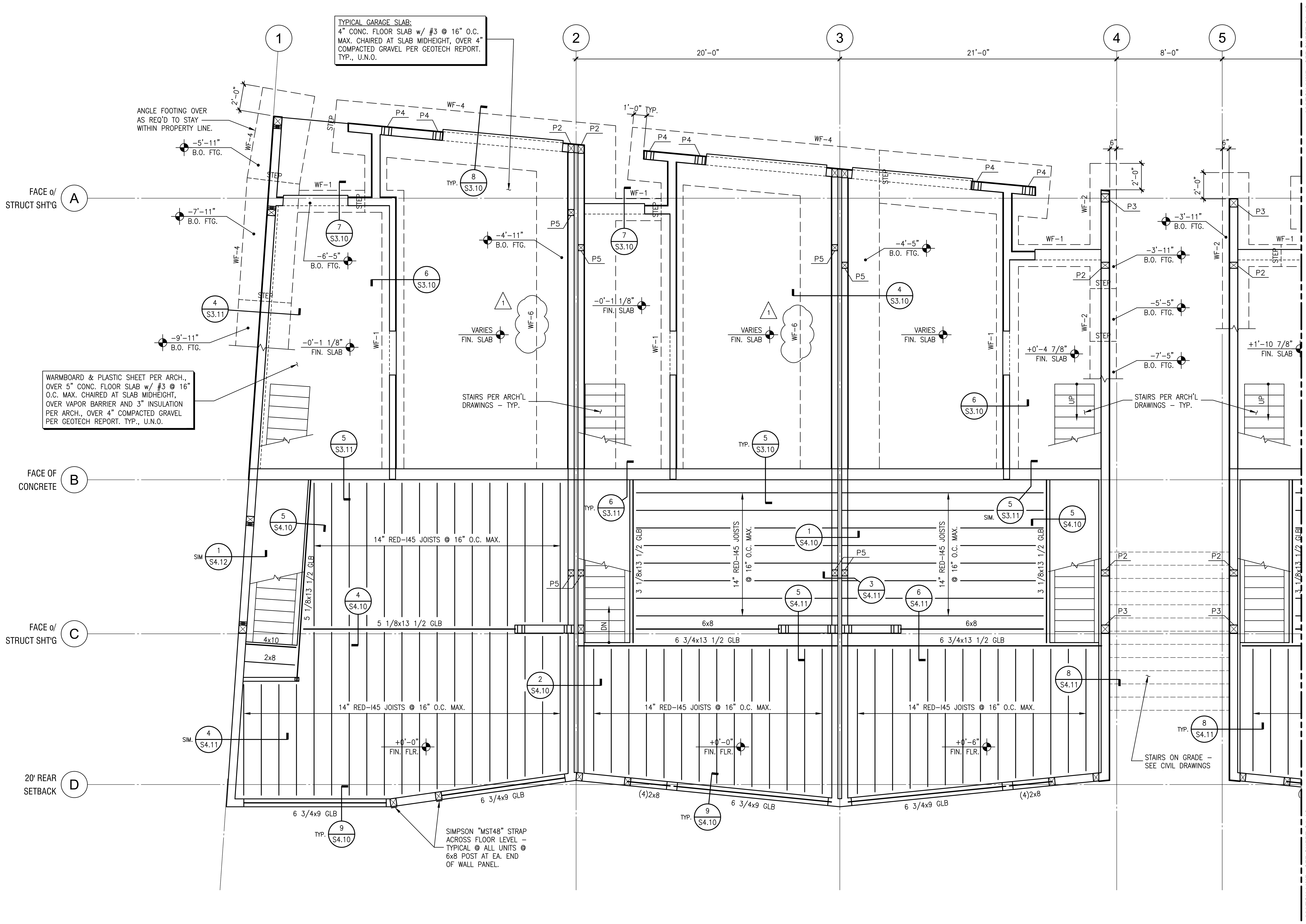
KEYMAP

1/4" = 1'-0"
scale

1

PERMIT SET
phase / rev

2017.06.01
date



FOUNDATION PLAN NOTES:

1. SEE SHEETS S0.10 & S0.11 FOR:
   - A. GENERAL STRUCTURAL NOTES
   - B. TYPICAL EXCAVATION ADJACENT TO FOOTING
   - C. TYPICAL SLAB JOINT DETAILS
   - D. TYPICAL STEPPED FOOTING DETAIL
2. P1 – DENOTES WOOD POST MARK – SEE SCHED. ON SHEET S0.12.
3. WF1 – DENOTES WALL FOOTING MARK – SEE SCHED. ON SHEET S0.12.
4. SW1 – DENOTES SHEARWALL SHEATHING PER SCHED. ON SHEET S0.12.
5. ALL SLABS ON GRADE ARE TO BE JOINTED AS SHOWN. PROVIDE (2) #4 x 4'-0" MID-HEIGHT SLAB BARS ADJACENT TO ALL DISCONTINUOUS JOINT LOCATIONS. ALL COLUMN ISOLATION JOINT CORNERS ARE TO BE INTERSECTED BY A SLAB JOINT OR REINFORCED WITH SLAB BARS PER ABOVE.
6. CONTRACTOR TO VERIFY ALL DIMENSIONS AND ELEVATIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION. SEE ARCHITECTURAL FOR ALL DIMENSIONS, SLAB SLOPES & DEPRESSIONS NOT NOTED.
7. SEE ARCH'L DRAWINGS FOR ALL DIMENSIONS NOT INDICATED.
8. FIN. FLR. DATUM: +0'-0" = 8600.5'

WOOD FLOOR FRAMING PLAN NOTES:

1. SEE SHEETS S0.10 & S0.11 FOR:
   - A. GENERAL STRUCTURAL NOTES
   - B. TYPICAL TOP PLATE SPLICE DETAIL
   - C. TYPICAL HEADER DETAIL
   - D. TYPICAL BEAM TO BEAM CONN.
   - E. TYPICAL BEAM TO POST CONN.
2. P1 – DENOTES WOOD POST MARK – SEE SCHED. ON SHEET S0.12.
3. DBL – DENOTES TYPICAL WALL STUDS @ 16" O.C. ARE TO BE DOUBLED AT FULL LENGTH OF WALL, BETWEEN THE UPPER LEVEL AND ROOF LEVEL. (DOUBLE 2x8's AT EXTERIOR WALLS, DOUBLE 2x6's AT INTERIOR WALLS.)
4. HANGING CEILING, DUCTWORK OR OTHER ITEMS FROM THE WOOD SHEATHING IS NOT ALLOWED.
5. ═══ – DENOTES WOOD HEADER PER DETAIL 7/S0.11.
6. CONTRACTOR TO VERIFY ALL DIMENSIONS AND ELEVATIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION. SEE ARCHITECTURAL FOR ALL DIMENSIONS, SLAB SLOPES & DEPRESSIONS NOT NOTED.
7. SEE ARCH'L DRAWINGS FOR ALL DIMENSIONS NOT INDICATED.
8. SEE ARCH'L FOR ALL STAIR DIMENSIONS & ELEVATIONS.
9. FIN. FLR. DATUM: +0'-0" = 8600.5'

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16-101

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PROFESSIONAL ENGINEER
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MARK A. RUDOW
06/01/17
STATE OF UTAH

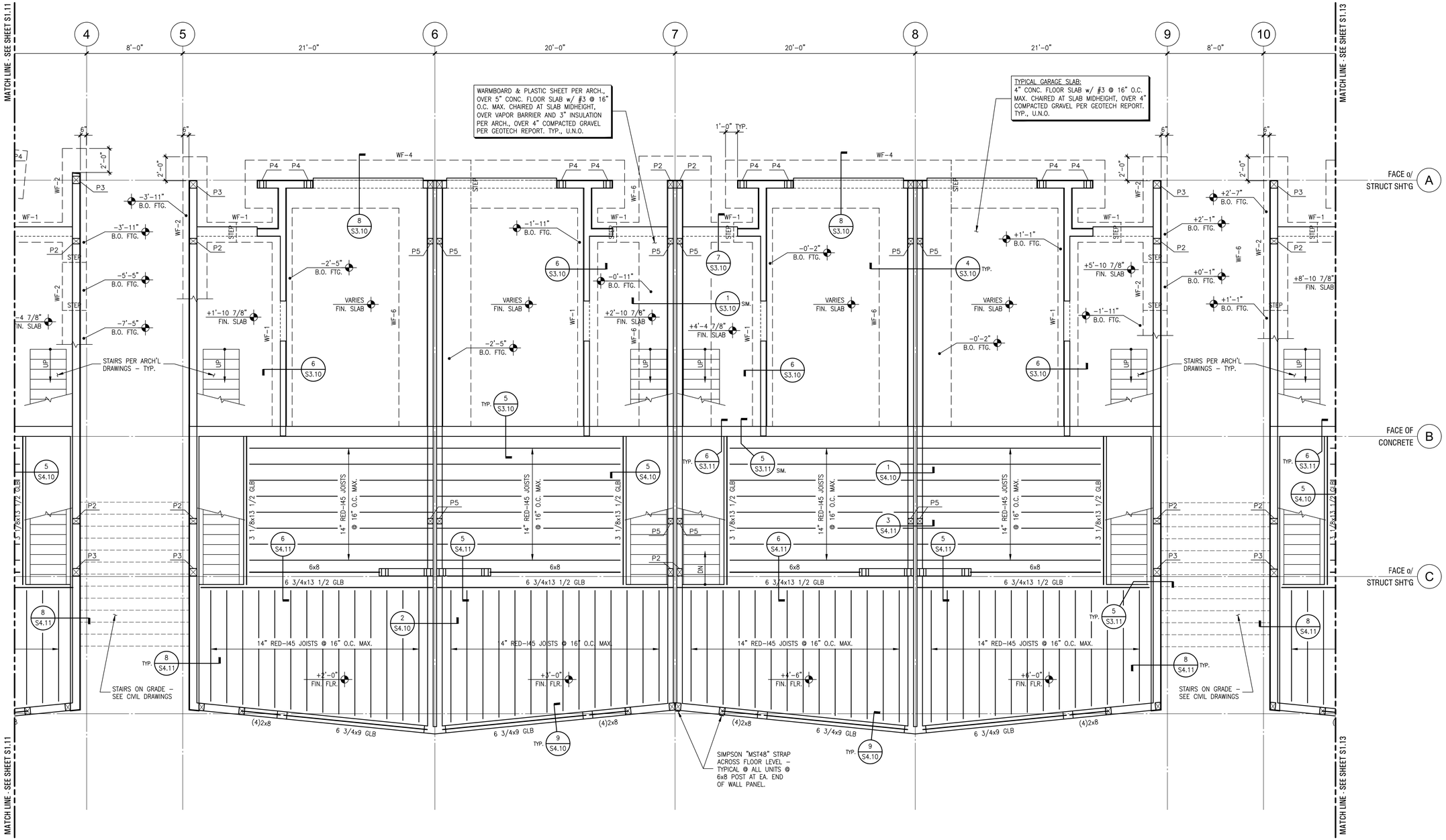
s1.11
FDN./FLR. FRMG. PLAN ENTRY LEVEL

KEYMAP

1/4" = 1'-0"
scale

PERMIT SET
phase / rev

2017.06.01
date



SEE SHEET S1.11 FOR TYPICAL PLAN NOTES

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08/01/17
STATE OF UTAH

s1.12
FDN./FLR. FRMG. PLAN ENTRY LEVEL

KEYMAP

1/4" = 1'-0"
scale

PERMIT SET
phase / rev

2017.06.01
date

AutoCAD Version: 2017
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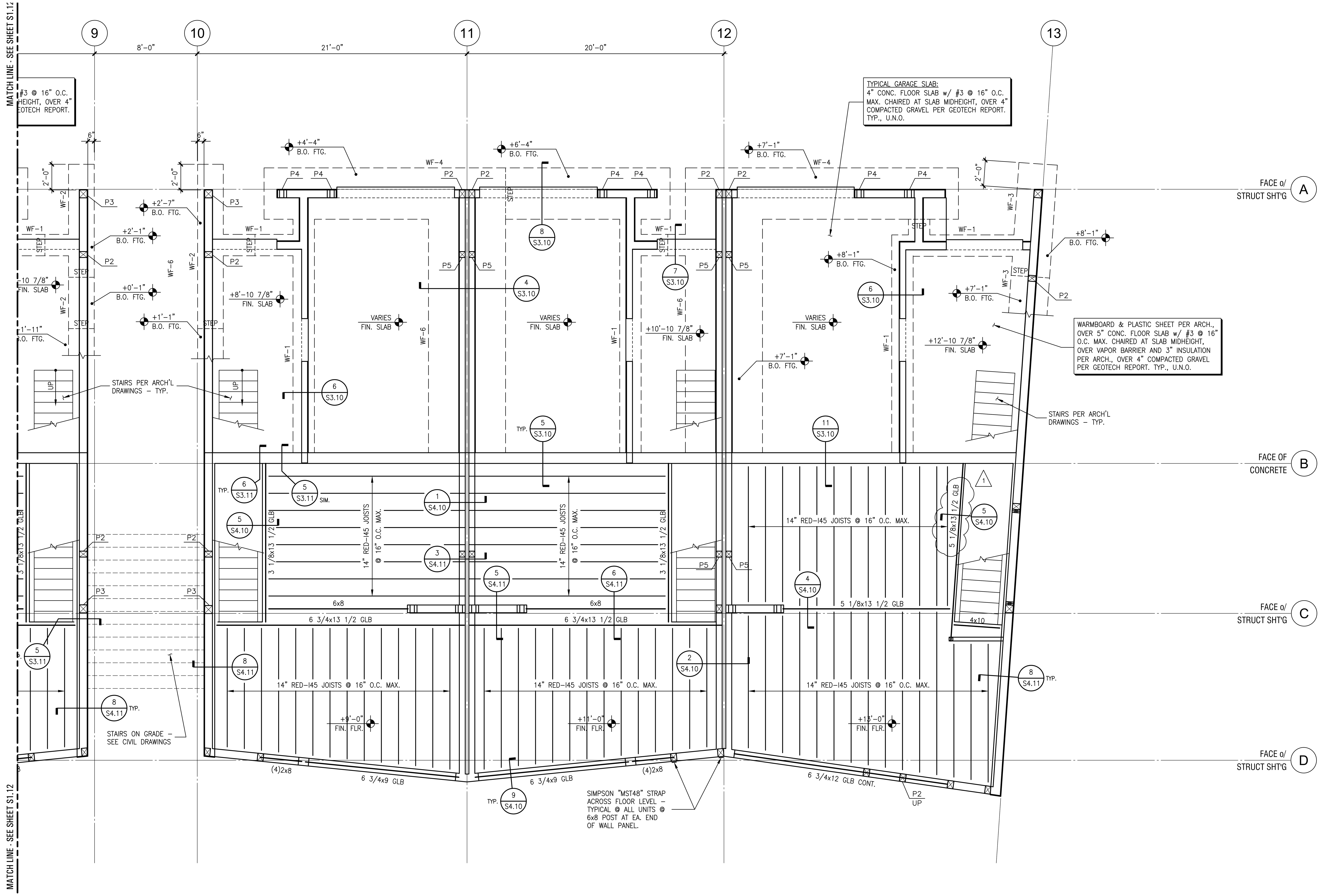
Xrefs: XR-MAIN-16126 XT-16126



FOUNDATION PLAN NOTES:

1. SEE SHEETS S0.10 & S0.11 FOR:
   - A. GENERAL STRUCTURAL NOTES
   - B. TYPICAL EXCAVATION ADJACENT TO FOOTING
   - C. TYPICAL SLAB JOINT DETAILS
   - D. TYPICAL STEPPED FOOTING DETAIL
2. P1 – DENOTES WOOD POST MARK – SEE SCHED. ON SHEET S0.12.
3. WF1 – DENOTES WALL FOOTING MARK – SEE SCHED. ON SHEET S0.12.
4. SW1 – DENOTES SHEARWALL SHEATHING PER SCHED. ON SHEET S0.12.
5. ALL SLABS ON GRADE ARE TO BE JOINTED AS SHOWN. PROVIDE (2) #4 x 4'–0" MID–HEIGHT SLAB BARS ADJACENT TO ALL DISCONTINUOUS JOINT LOCATIONS. ALL COLUMN ISOLATION JOINT CORNERS ARE TO BE INTERSECTED BY A SLAB JOINT OR REINFORCED WITH SLAB BARS PER ABOVE.
6. CONTRACTOR TO VERIFY ALL DIMENSIONS AND ELEVATIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION. SEE ARCHITECTURAL FOR ALL DIMENSIONS, SLAB SLOPES & DEPRESSIONS NOT NOTED.
7. SEE ARCH'L DRAWINGS FOR ALL DIMENSIONS NOT INDICATED.
8. FIN. FLR. DATUM: +0'–0" = 8600.5'

WOOD FLOOR FRAMING PLAN NOTES:

1. SEE SHEETS S0.10 & S0.11 FOR:
   - A. GENERAL STRUCTURAL NOTES
   - B. TYPICAL TOP PLATE SPLICE DETAIL
   - C. TYPICAL HEADER DETAIL
   - D. TYPICAL BEAM TO BEAM CONN.
   - E. TYPICAL BEAM TO POST CONN.
2. P1 – DENOTES WOOD POST MARK – SEE SCHED. ON SHEET S0.12.
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PROFESSIONAL ENGINEER
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MARK A. RUDOW
06/01/17
STATE OF UTAH

s1.13
FDN./FLR. FRMG. PLAN ENTRY LEVEL

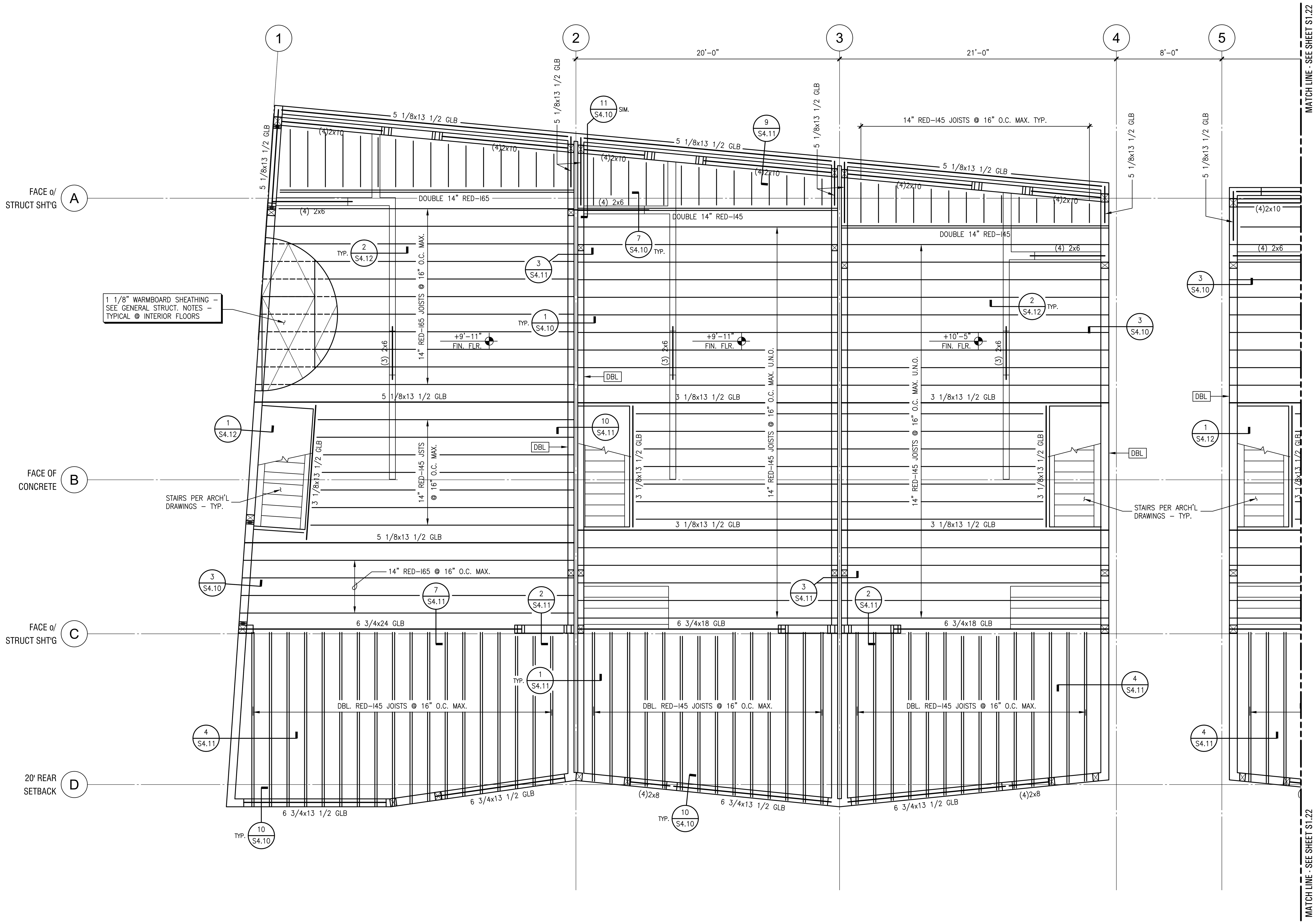
KEYMAP

1/4" = 1'-0"
scale

1

PERMIT SET
phase / rev

2017.06.01
date



WOOD FLOOR FRAMING PLAN NOTES:

1. SEE SHEETS S0.10 & S0.11 FOR:
   - A. GENERAL STRUCTURAL NOTES
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   - D. TYPICAL BEAM TO BEAM CONN.
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8. SEE ARCH'L FOR ALL STAIR DIMENSIONS & ELEVATIONS.
9. FIN. FLR. DATUM: +0'-0" = 8600.5'

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PROFESSIONAL ENGINEER
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06/01/17
STATE OF UTAH

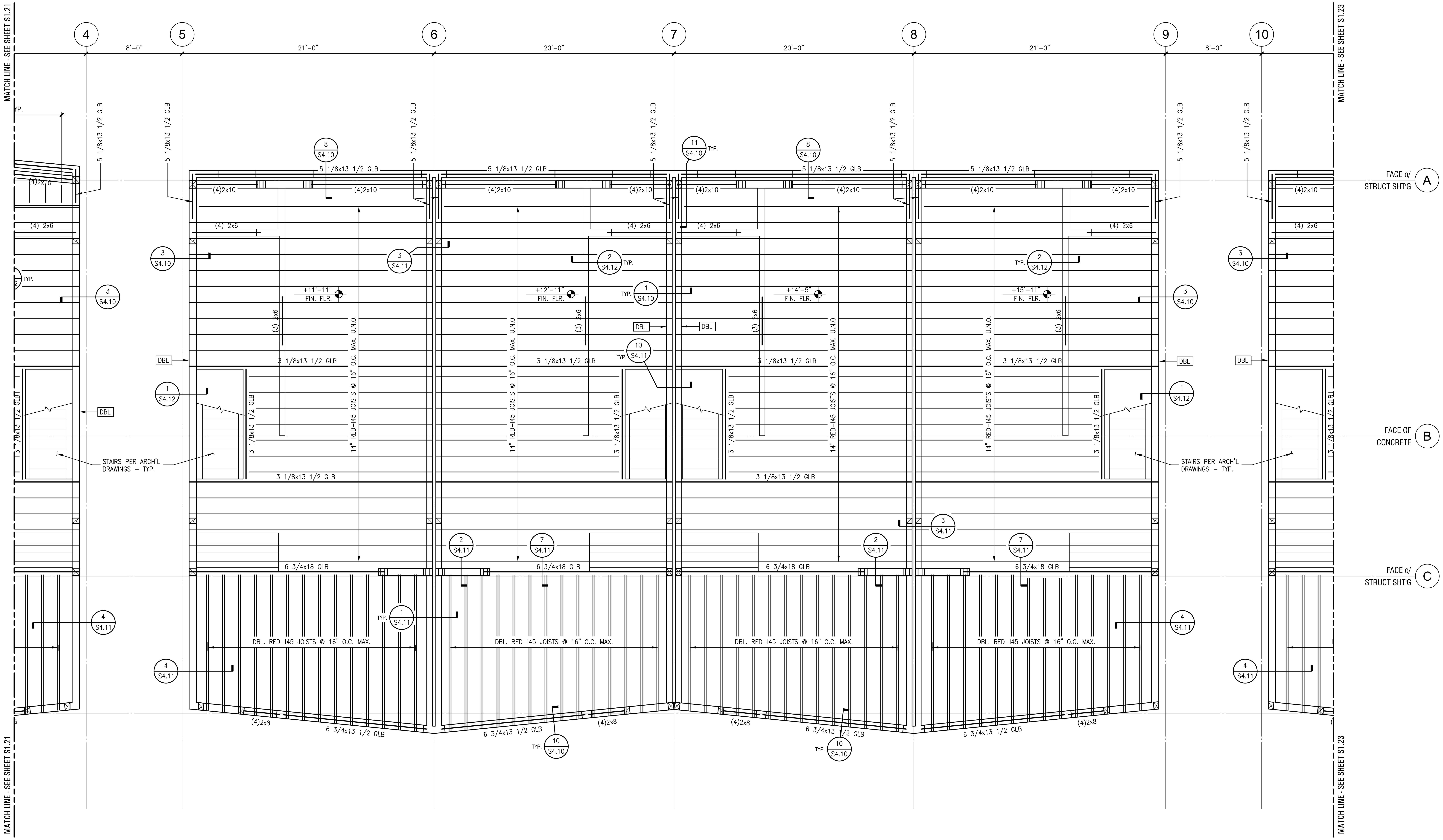
s1.21
FLOOR FRAMING PLAN UPPER LEVEL

KEYMAP

1/4" = 1'-0"
scale

PERMIT SET
phase / rev

2017.06.01
date



SEE SHEET S1.21 FOR TYPICAL PLAN NOTES

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LANDSCAPE
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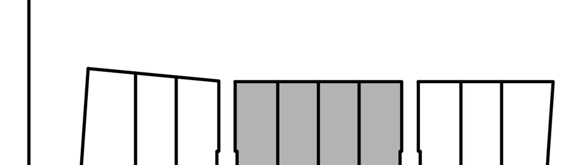
PROFESSIONAL ENGINEER
9250862-2202
MARK A. RUDOW
06/01/17
STATE OF UTAH

s1.22
FLOOR FRAMING PLAN UPPER LEVEL

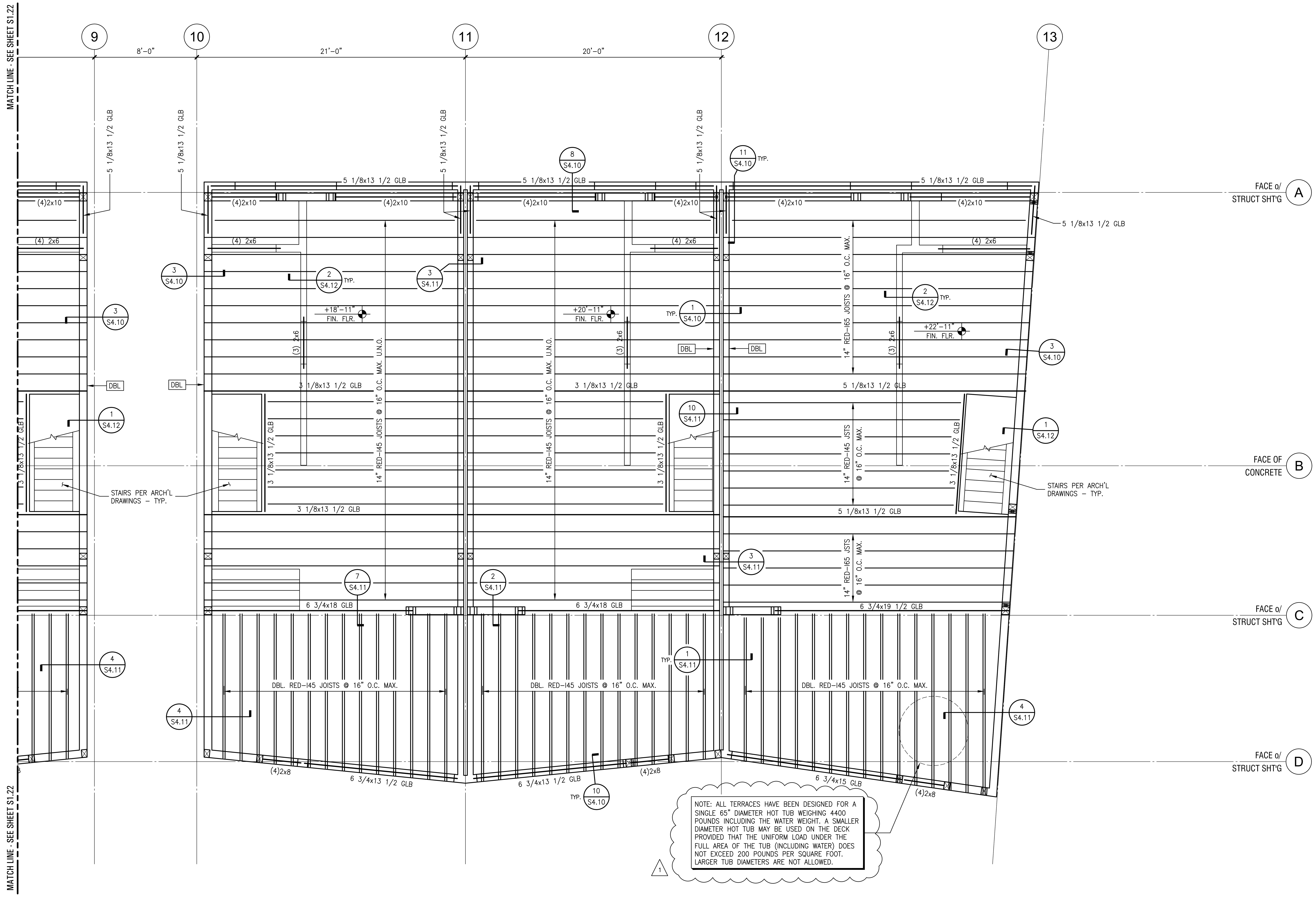
KEYMAP



1/4" = 1'-0"
scale

PERMIT SET
phase / rev

2017.06.01
date



WOOD FLOOR FRAMING PLAN NOTES:

1. SEE SHEETS S0.10 & S0.11 FOR:
   - A. GENERAL STRUCTURAL NOTES
   - B. TYPICAL TOP PLATE SPLICE DETAIL
   - C. TYPICAL HEADER DETAIL
   - D. TYPICAL BEAM TO BEAM CONN.
   - E. TYPICAL BEAM TO POST CONN.
2. P1 – DENOTES WOOD POST MARK – SEE SCHED. ON SHEET S0.12.
3. DBL – DENOTES TYPICAL WALL STUDS @ 16" O.C. ARE TO BE DOUBLED AT FULL LENGTH OF WALL, BETWEEN THE UPPER LEVEL AND ROOF LEVEL. (DOUBLE 2x8's AT EXTERIOR WALLS, DOUBLE 2x6's AT INTERIOR WALLS.)
4. HANGING CEILING, DUCTWORK OR OTHER ITEMS FROM THE WOOD SHEATHING IS NOT ALLOWED.
5. – DENOTES WOOD HEADER PER DETAIL 7/S0.11.
6. CONTRACTOR TO VERIFY ALL DIMENSIONS AND ELEVATIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION. SEE ARCHITECTURAL FOR ALL DIMENSIONS, SLAB SLOPES & DEPRESSIONS NOT NOTED.
7. SEE ARCH'L DRAWINGS FOR ALL DIMENSIONS NOT INDICATED.
8. SEE ARCH'L FOR ALL STAIR DIMENSIONS & ELEVATIONS.
9. FIN. FLR. DATUM: +0'-0" = 8600.5'

architect
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LANDSCAPE
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PROFESSIONAL ENGINEER
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MARK A. RUDOW
06/01/17
STATE OF UTAH

s1.23
FLOOR FRAMING PLAN UPPER LEVEL

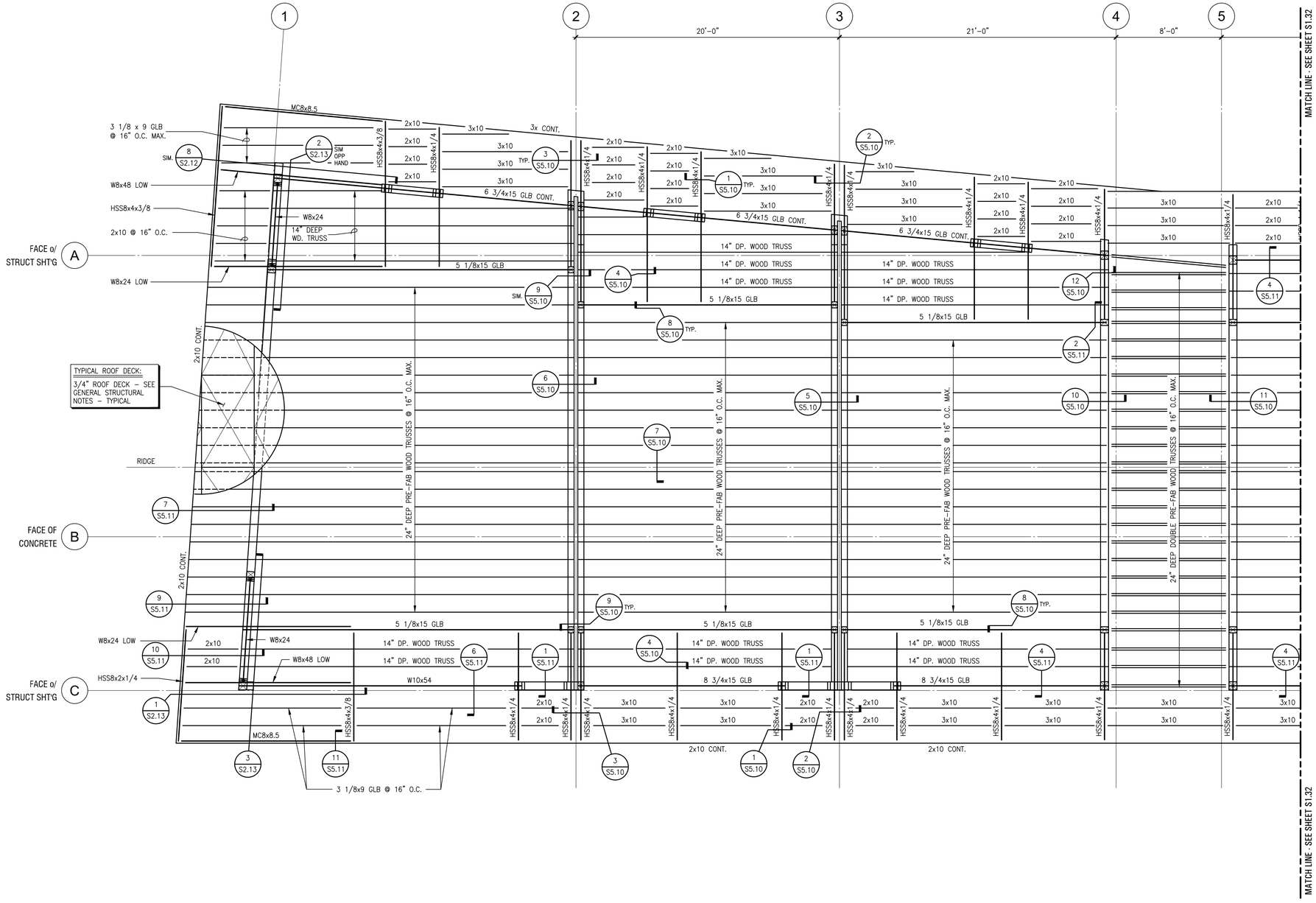
KEYMAP

1/4" = 1'-0"
scale

1

PERMIT SET
phase / rev

2017.06.01
date



ROOF FRAMING PLAN NOTES:

1. SEE SHEETS S0.10 & S0.11 FOR:
   - A. GENERAL STRUCTURAL NOTES
   - B. TYPICAL TOP PLATE SPLICE DETAIL
   - C. TYP. MECH'L UNIT SUPPORT FRAMING
   - D. TYPICAL HEADER DETAIL
   - E. TYPICAL BEAM TO BEAM CONN.
   - F. TYPICAL BEAM TO POST CONN.
   - G. TYPICAL ROOF PLYWOOD LAYOUT.
2. SEE ARCH'L DRAWINGS FOR ALL B.O.D. ROOF ELEVATIONS.
3. DENOTES OPENING IN ROOF DECK, COORDINATED SIZE & LOCATION w/ MECH. DRAWINGS. PROVIDE OPENING FRAMING PER DETAILS ON SHEET S0.11.
4. — DENOTES WOOD HEADER PER DETAIL 7/S0.11.
5. ESTABLISH AND VERIFY ALL OPENINGS & INSERTS FOR MECHANICAL, ELECTRICAL & PLUMBING WITH THE APPROPRIATE TRADES, DRAWINGS AND SUBCONTRACTORS PRIOR TO CONSTRUCTION.
6. HANGING CEILING, DUCTWORK OR OTHER ITEMS FROM THE ROOF SHEATHING IS NOT ALLOWED.

architect
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PROFESSIONAL ENGINEER
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08/01/17
STATE OF UTAH

s1.31
ROOF FRAMING PLAN
ROOF LEVEL

1/4" = 1'-0"
scale

PERMIT SET
phase / rev

2017.06.01
date

KEYMAP

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June 01, 2017 4:26:46 p.m.
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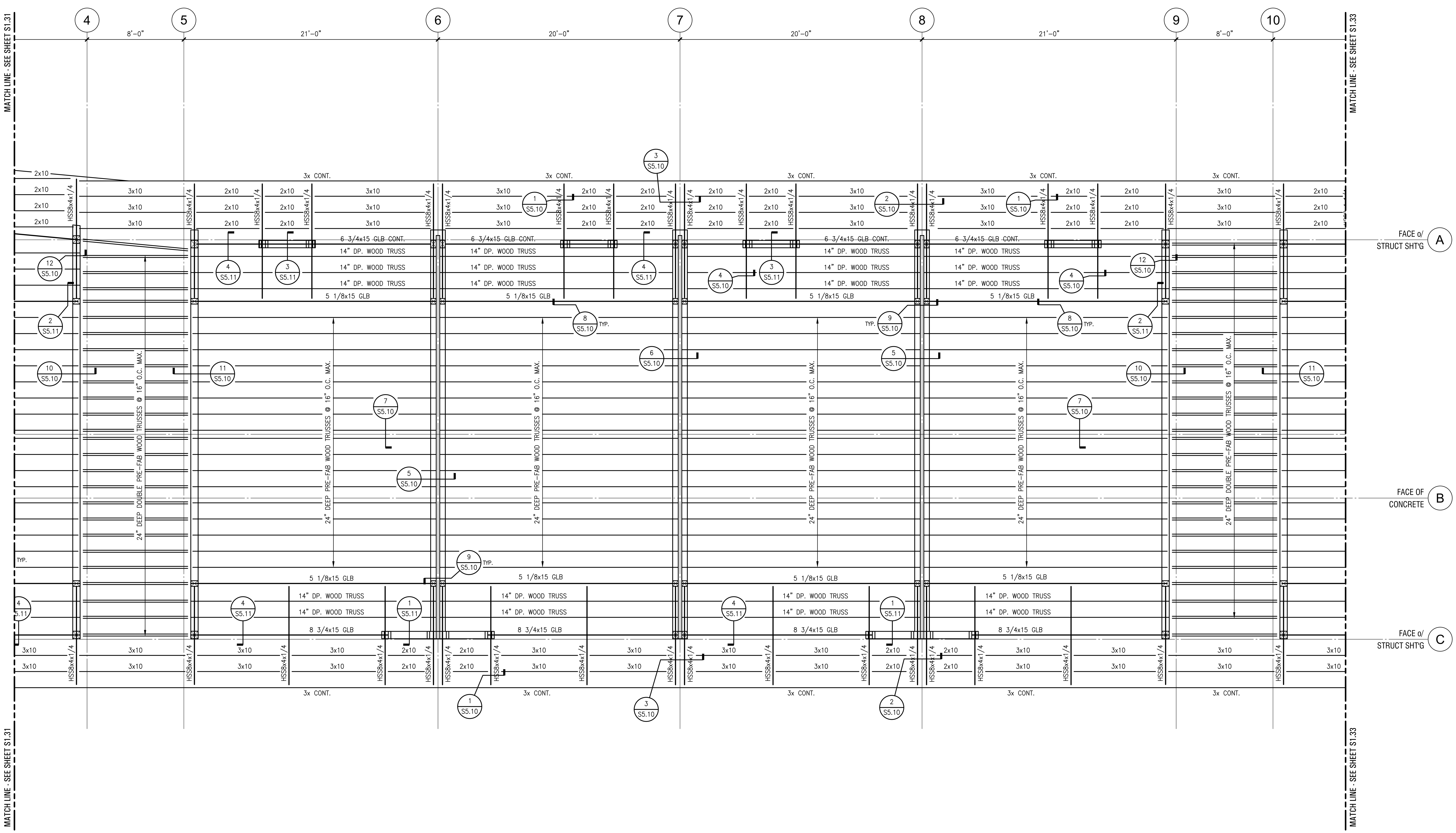
Xrefs: XH-ARCHNOTES XR-MAIN-16126 X1-16126

SEE SHEET S1.31 FOR TYPICAL PLAN NOTES



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LANDSCAPE
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PROFESSIONAL ENGINEER
9250862-2202
MARK A.
RUDOW
06/01/17
STATE OF UTAH

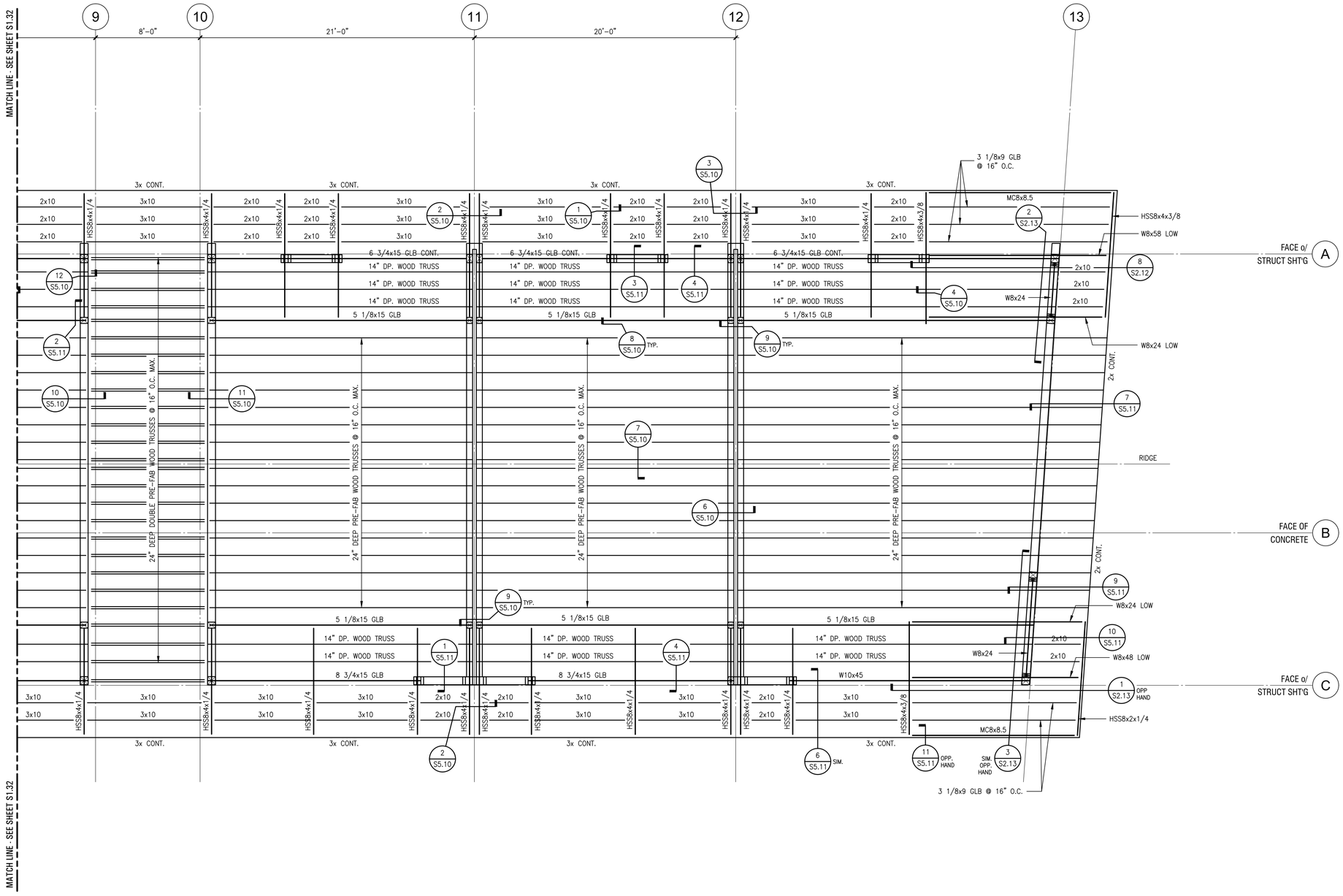
s1.32
ROOF FRAMING PLAN ROOF LEVEL

KEYMAP

1/4" = 1'-0"
scale

PERMIT SET
phase / rev

2017.06.01
date



ROOF FRAMING PLAN NOTES:

1. SEE SHEETS S0.10 & S0.11 FOR:
   - A. GENERAL STRUCTURAL NOTES
   - B. TYPICAL TOP PLATE SPLICE DETAIL
   - C. TYP. MECH'L UNIT SUPPORT FRAMING
   - D. TYPICAL HEADER DETAIL
   - E. TYPICAL BEAM TO BEAM CONN.
   - F. TYPICAL BEAM TO POST CONN.
   - G. TYPICAL ROOF PLYWOOD LAYOUT.
2. SEE ARCH'L DRAWINGS FOR ALL B.O.D. ROOF ELEVATIONS.
3. DENOTES OPENING IN ROOF DECK, COORDINATED SIZE & LOCATION w/ MECH. DRAWINGS. PROVIDE OPENING FRAMING PER DETAILS ON SHEET S0.11.
4. — DENOTES WOOD HEADER PER DETAIL 7/S0.11.
5. ESTABLISH AND VERIFY ALL OPENINGS & INSERTS FOR MECHANICAL, ELECTRICAL & PLUMBING WITH THE APPROPRIATE TRADES, DRAWINGS AND SUBCONTRACTORS PRIOR TO CONSTRUCTION.
6. HANGING CEILING, DUCTWORK OR OTHER ITEMS FROM THE ROOF SHEATHING IS NOT ALLOWED.

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PROFESSIONAL ENGINEER
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MARK A. RUDOW
08/01/17
STATE OF UTAH

s1.33
ROOF FRAMING PLAN
ROOF LEVEL

KEYMAP

1/4" = 1'-0"
scale

PERMIT SET
phase / rev

2017.06.01
date

AutoCAD Version: 2017
June 01, 2017 4:28:20 p.m.
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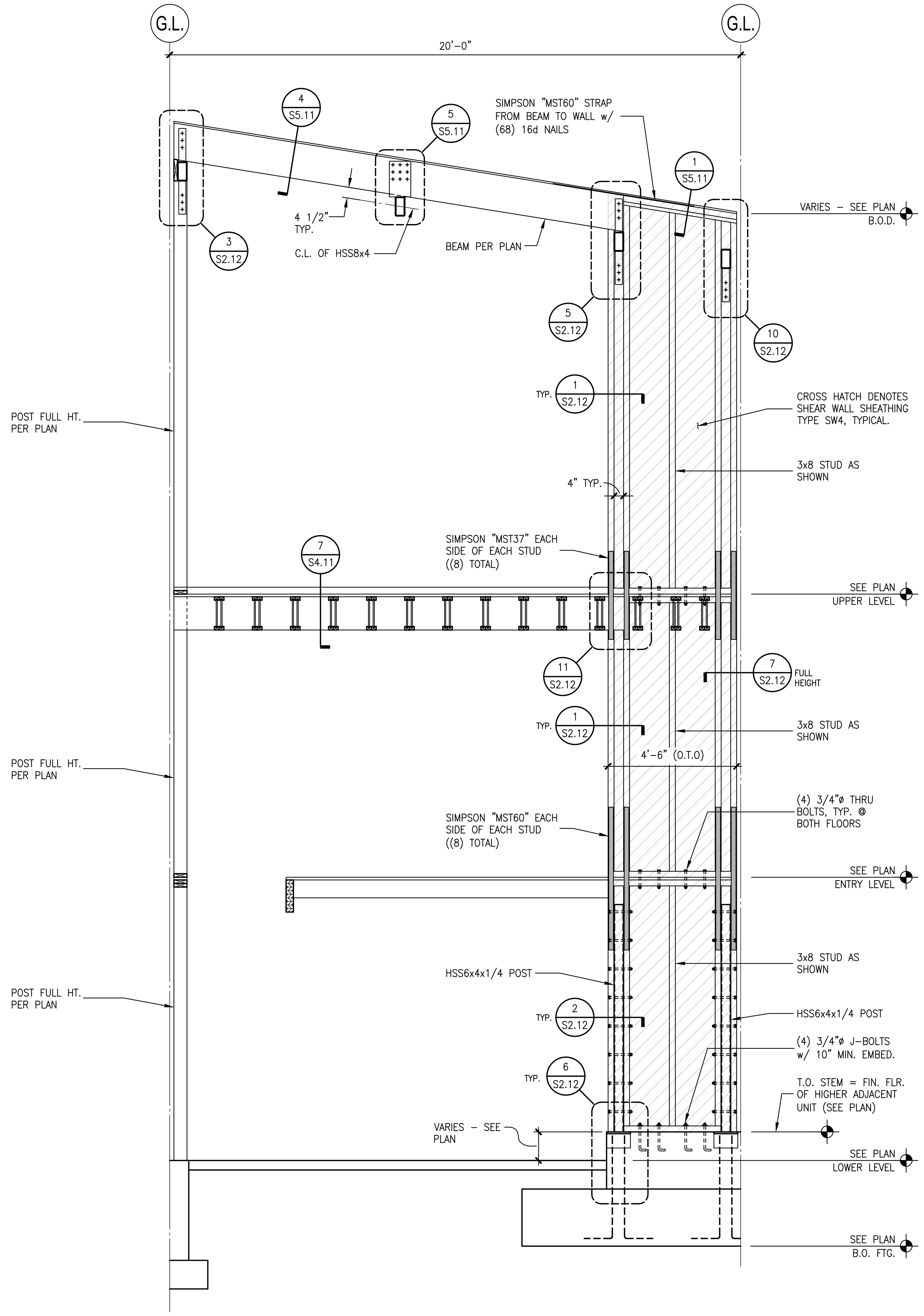
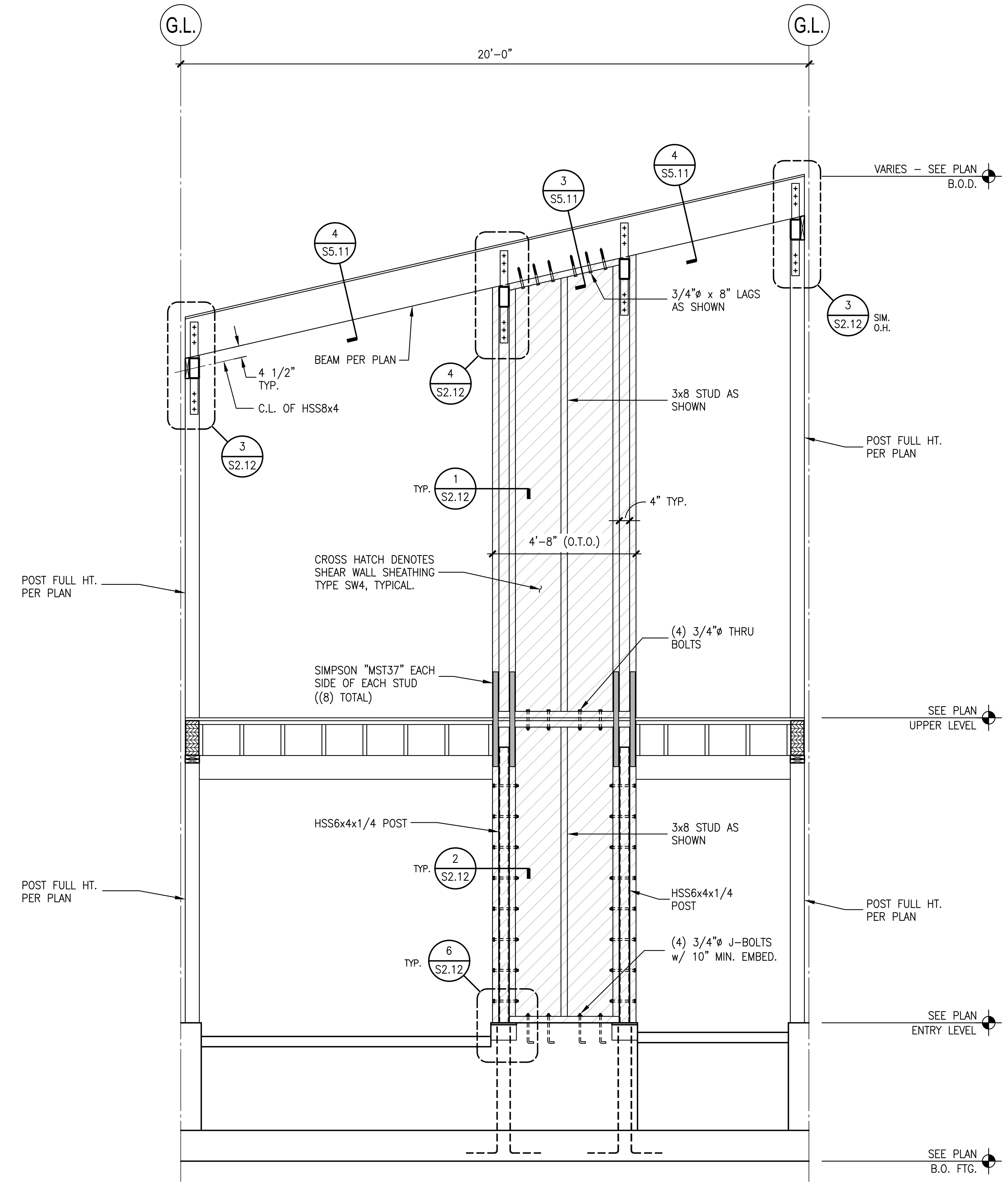
Xrefs: XH-NOTES XR-MAIN-16126 X1-16126



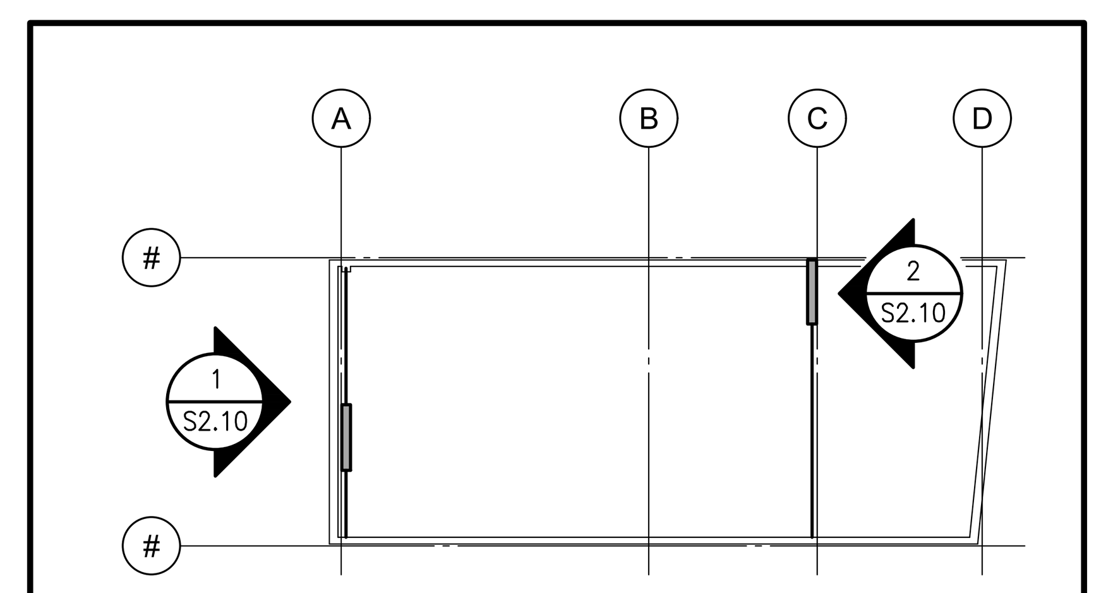
2 TYPICAL UNIT - SOUTH SHEAR WALL

(VIEWED FROM THE SOUTH)



1 TYPICAL UNIT - NORTH SHEAR WALL

(VIEWED FROM THE NORTH)



SHEARWALL KEY PLAN

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16-101

sma project name
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MECH/PLBG/ELEC
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phoenix, az 85020
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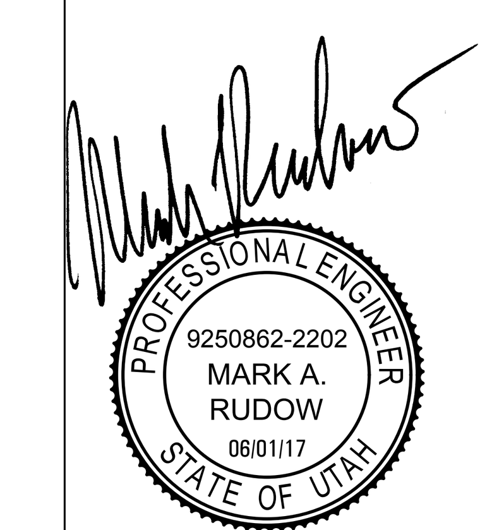
LANDSCAPE
langvardt design group
328 W 200 S
salt lake city, ut 84101
t (801) 583-1295



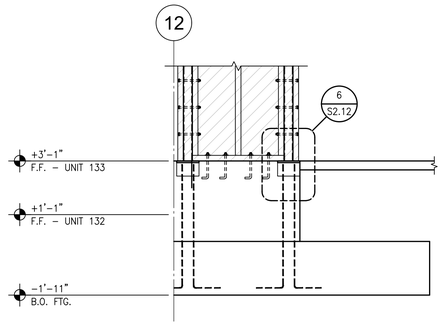
s2.10

TYPICAL UNIT SHEAR WALL ELEVATIONS

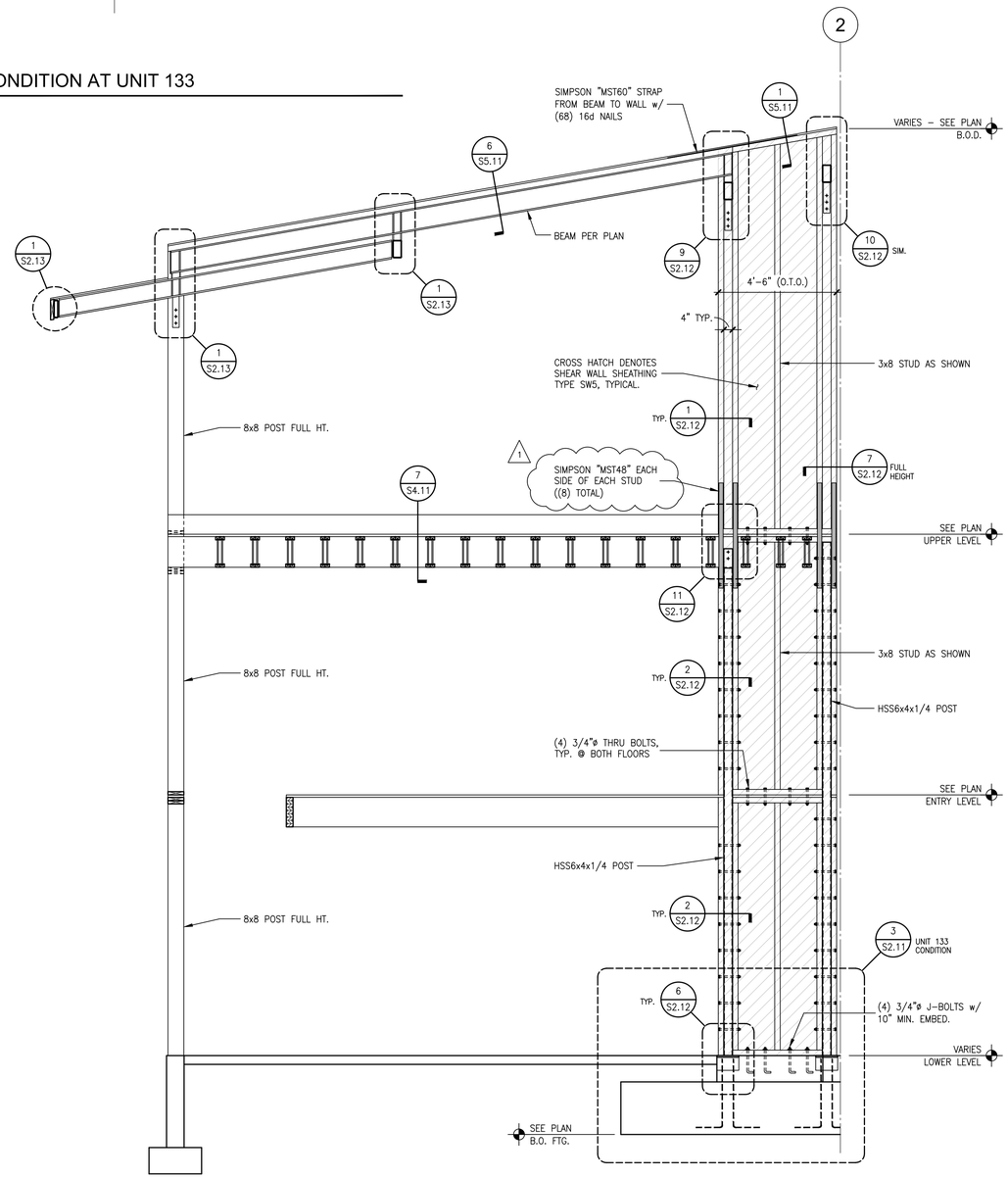
3/8" = 1'-0"
scale

PERMIT SET
phase / rev

2017.06.01
date

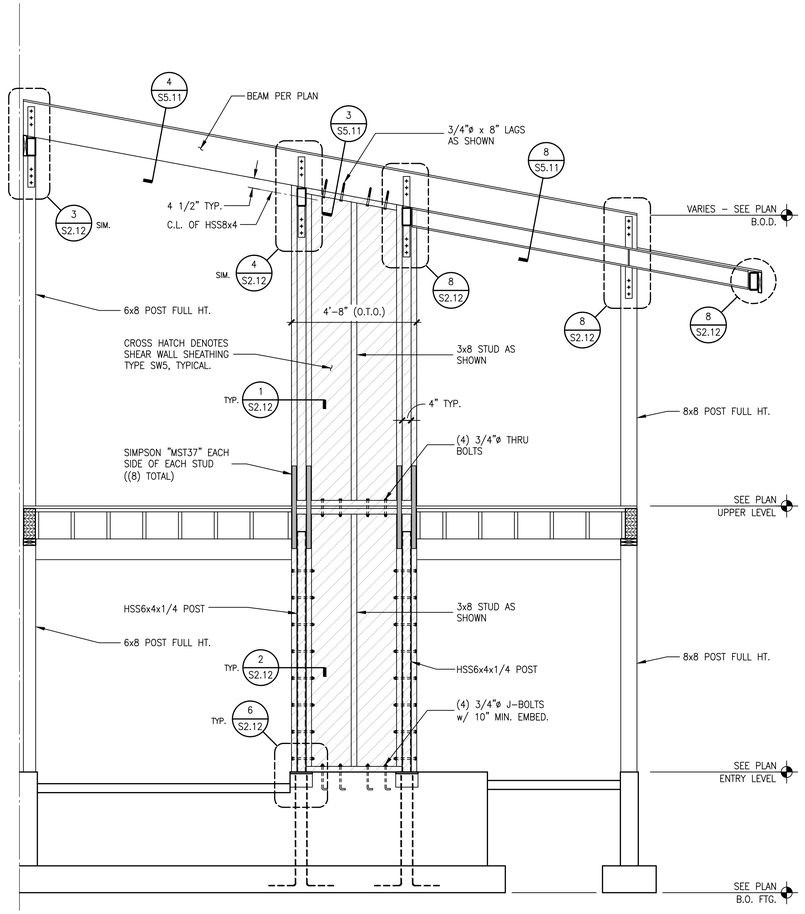


3 CONDITION AT UNIT 133



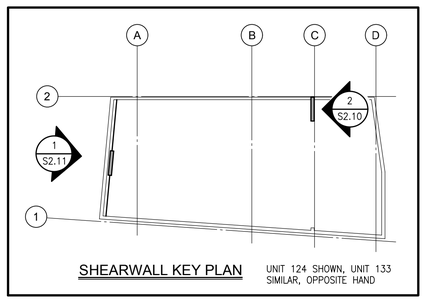
2 UNIT 124 SOUTH SHEAR WALL

(VIEWED FROM THE SOUTH - UNIT 133 SIMILAR, OPPOSITE HAND))



1 UNIT 124 NORTH SHEAR WALL

(VIEWED FROM THE NORTH - UNIT 133 SIMILAR, OPPOSITE HAND))



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PROFESSIONAL ENGINEER
9250862-2202
MARK A. RUDOW
08/01/17
STATE OF UTAH

s2.11
UNIT 124 & 133 SHEAR WALL ELEVATIONS

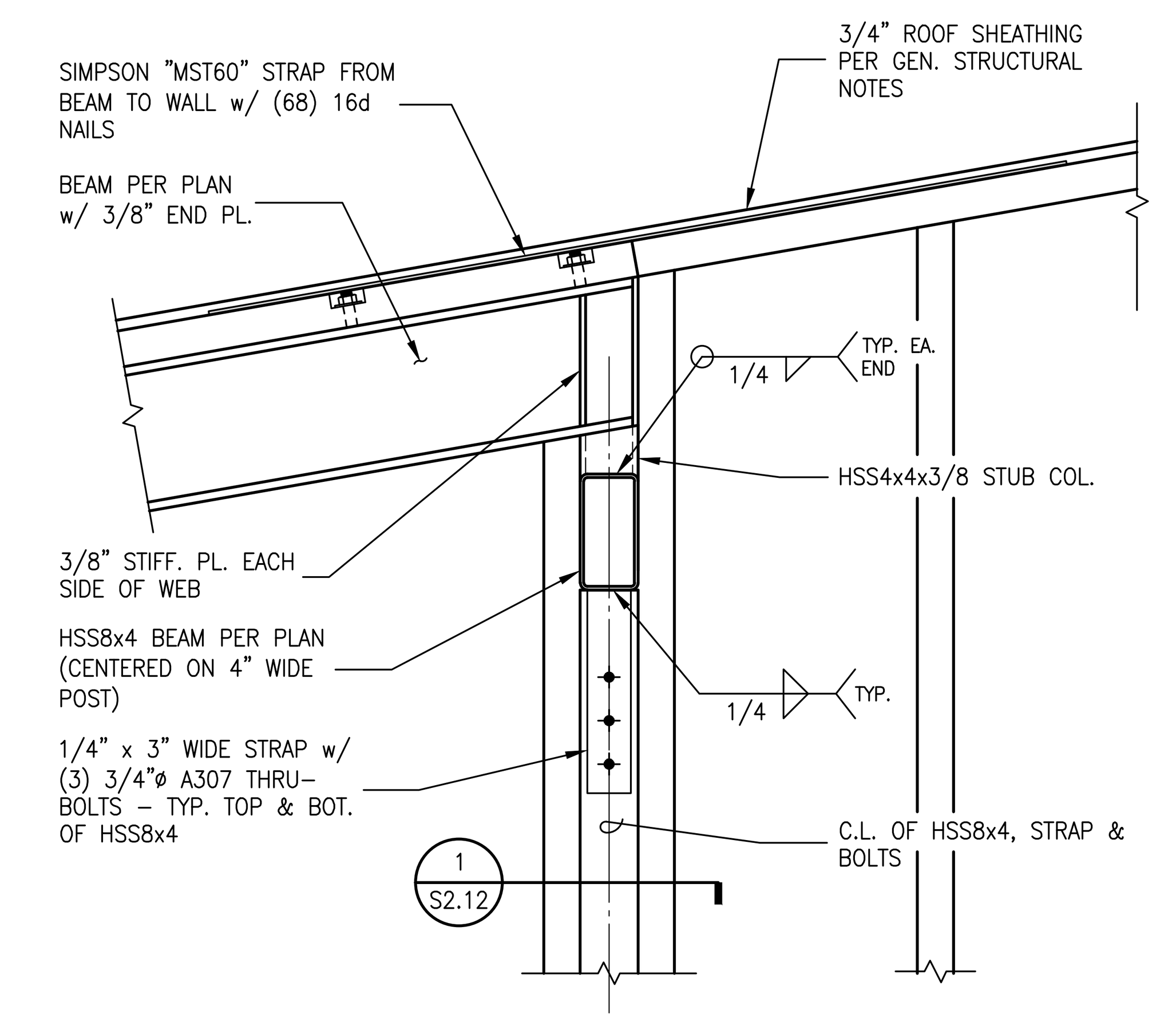
3/8"=1'-0"
scale

1

PERMIT SET
phase / rev

2017.06.01
date

AutoCAD Version: 2017
June 26, 2017 10:59:21 am
Drawing File: K:\2016\16-101 Powdercat\S2.11.DWG (KAB)
Xrefs: Unit 124 South Shear Wall Unit 124 North Shear Wall XT-16126



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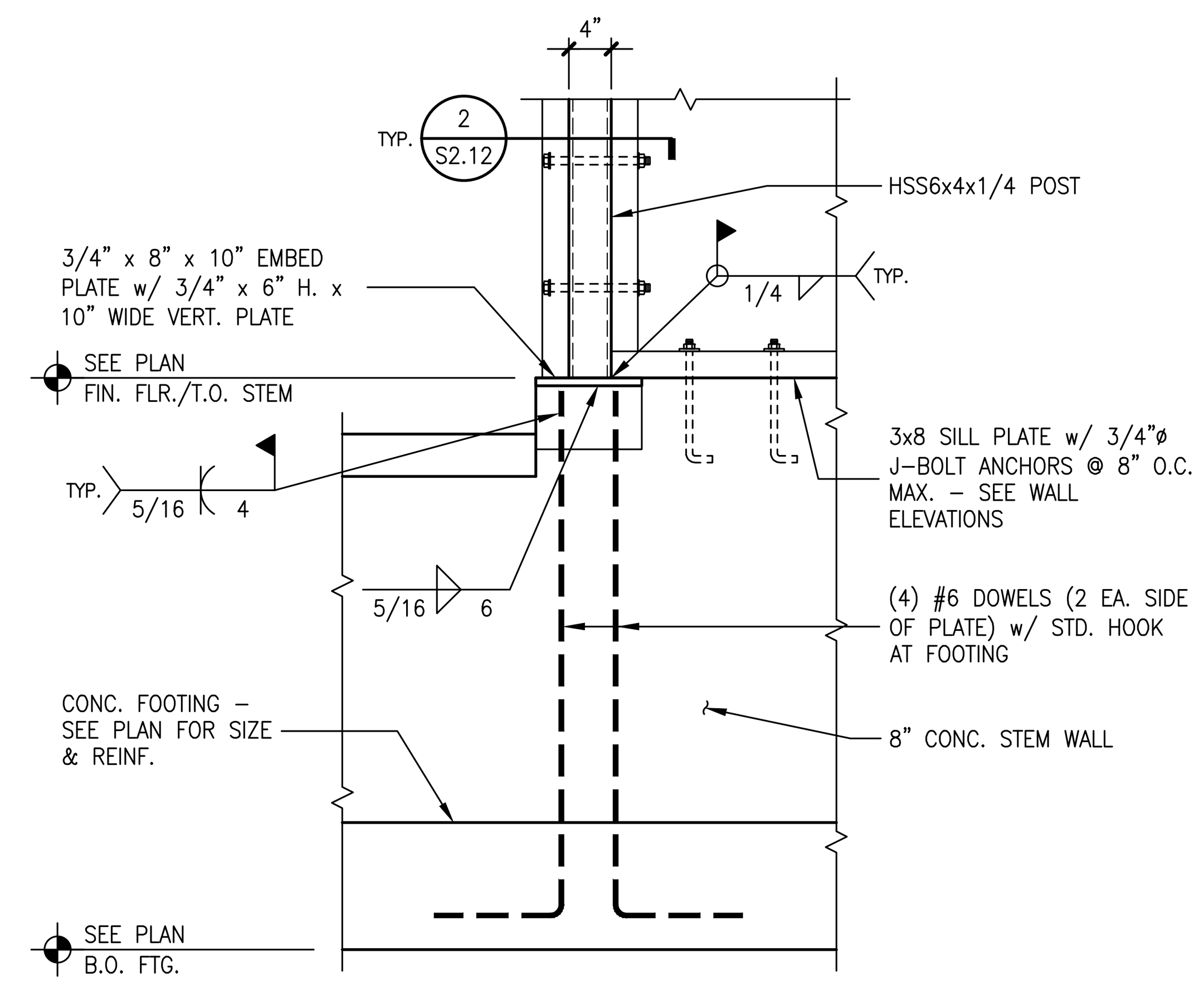

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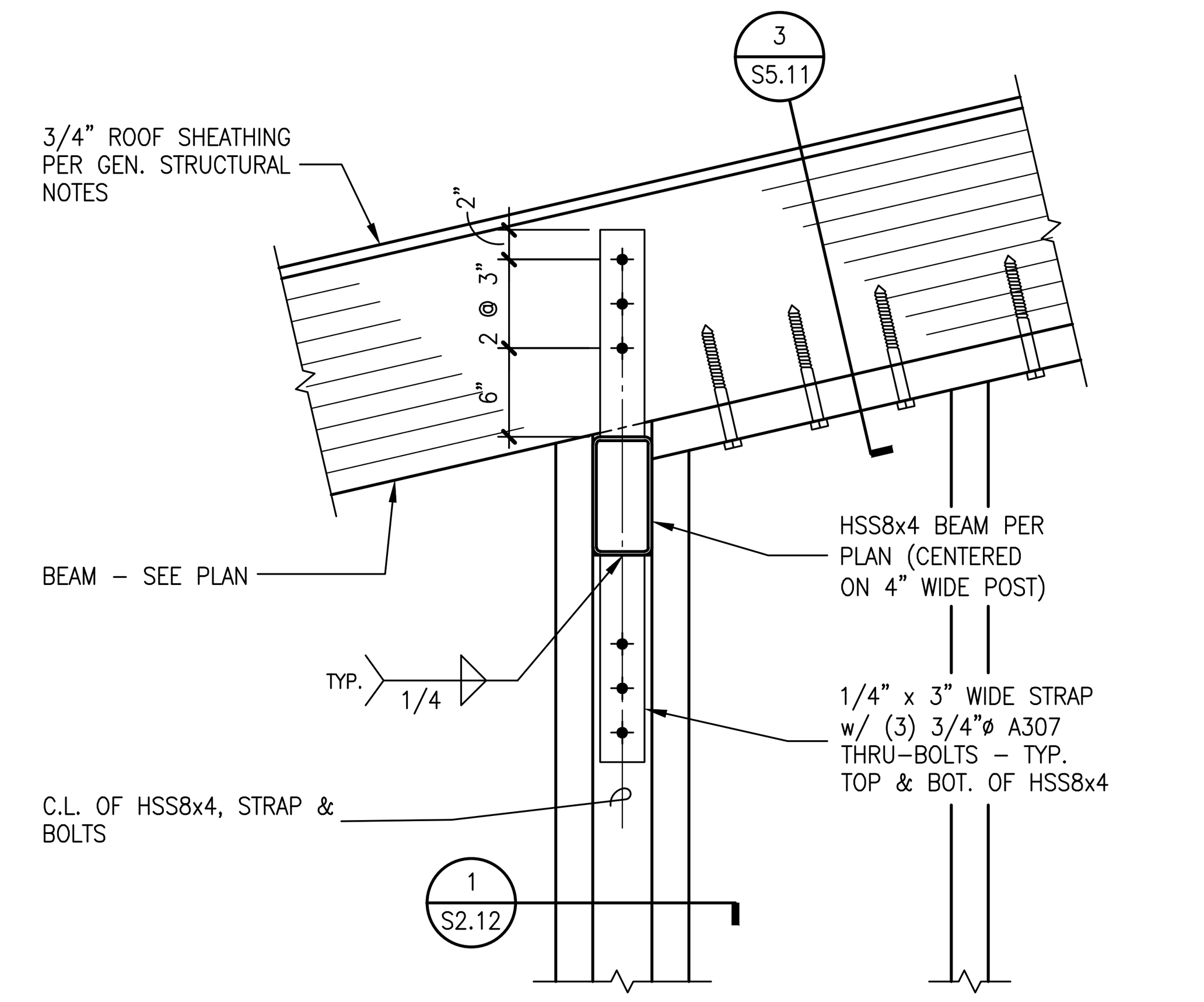

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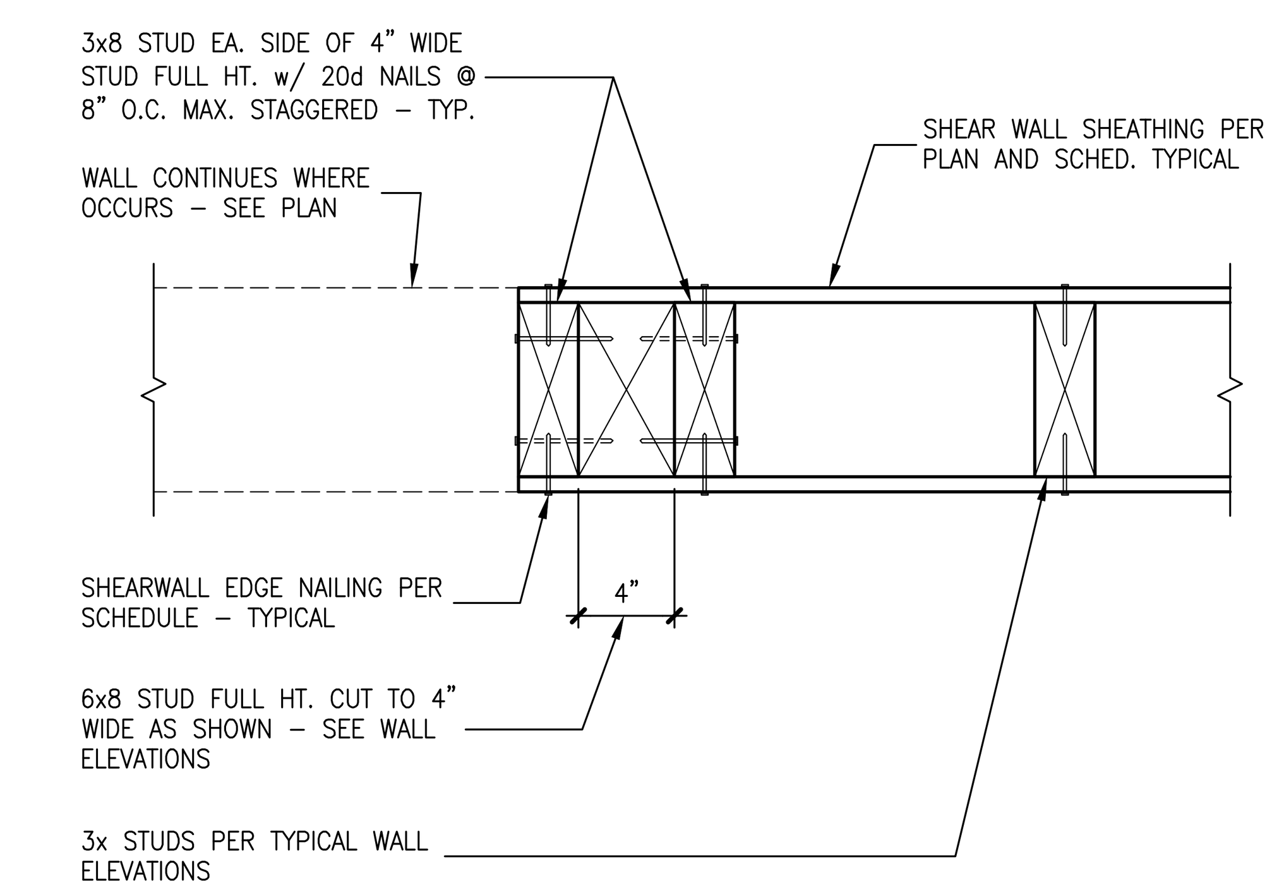

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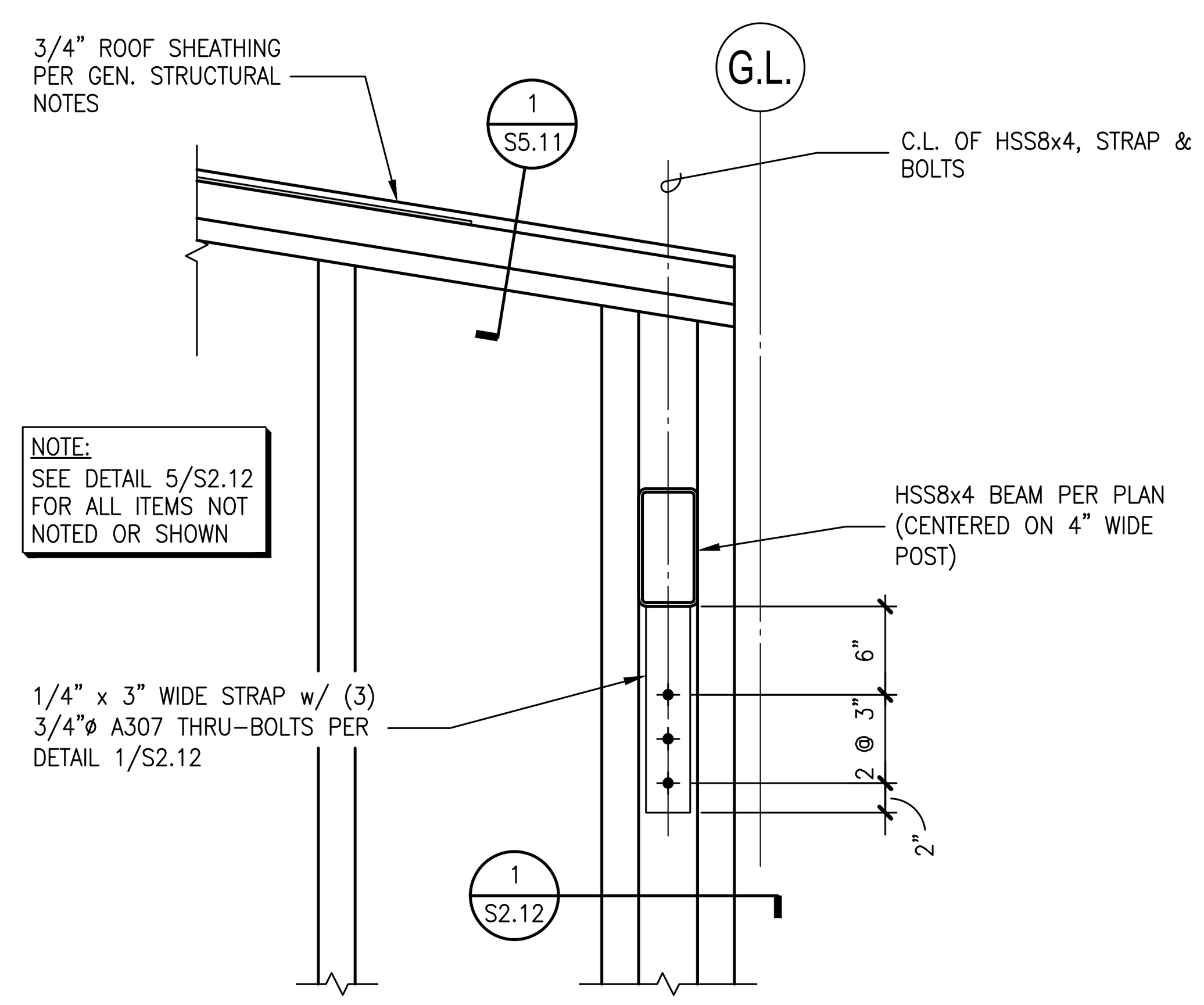

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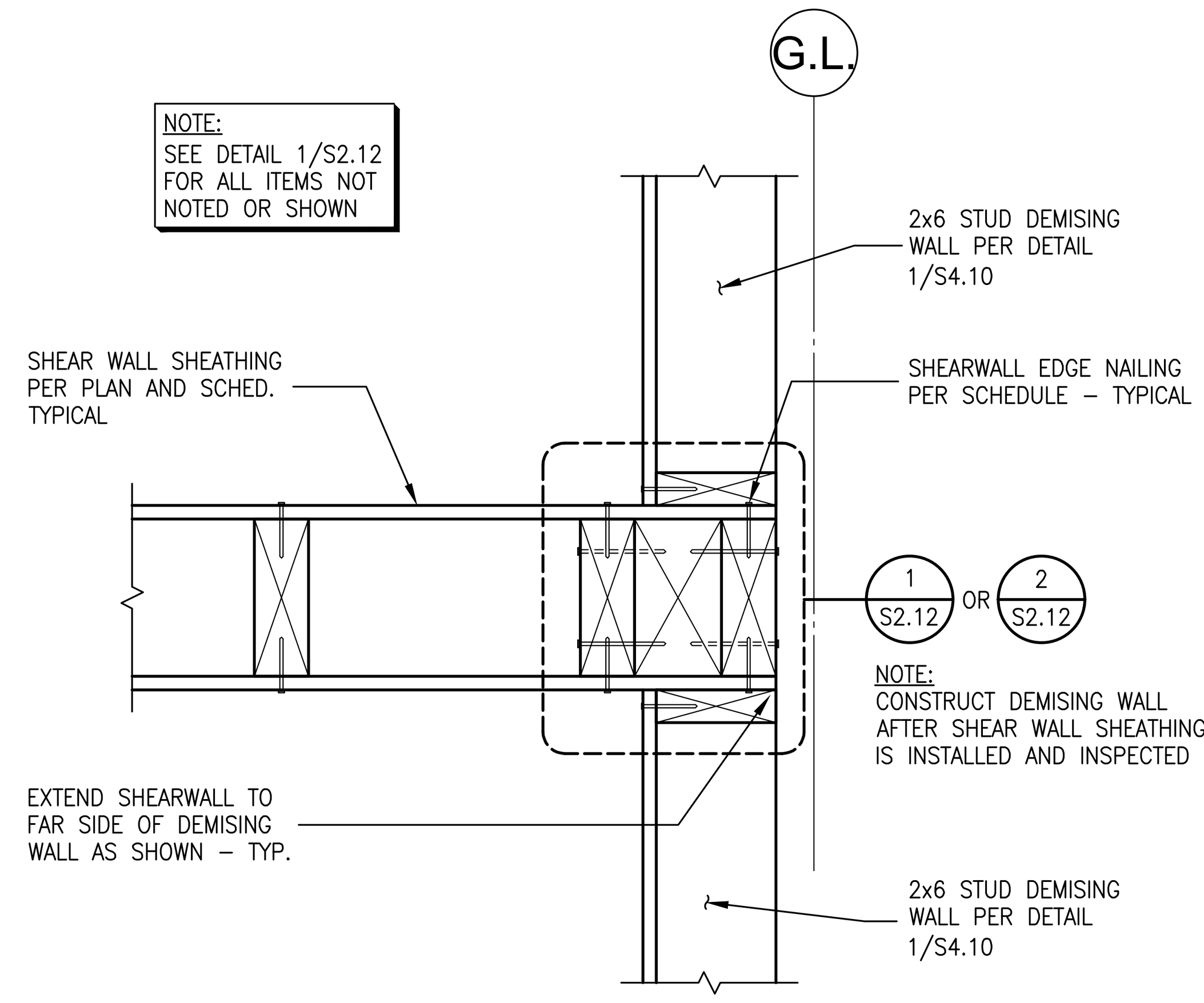

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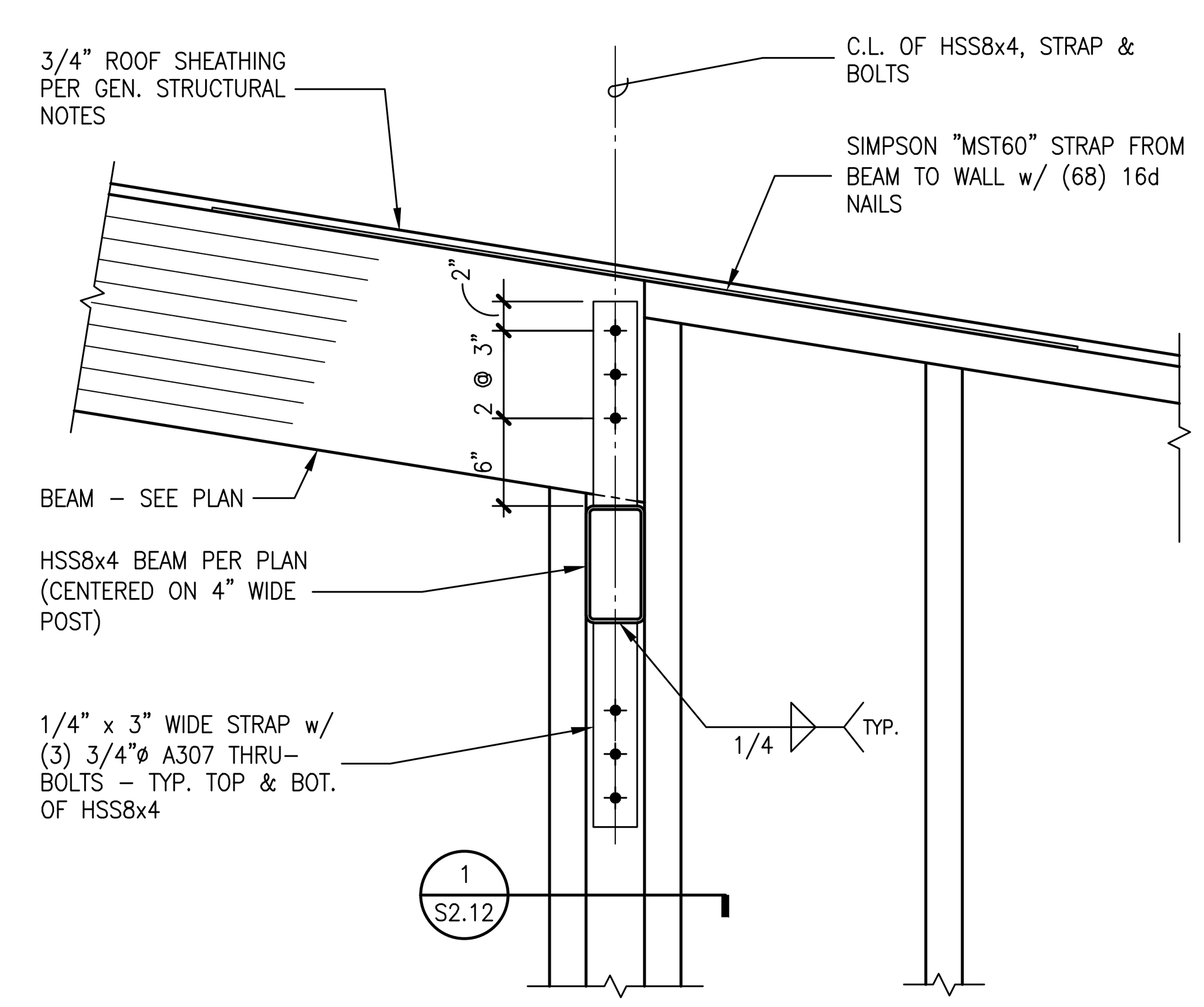

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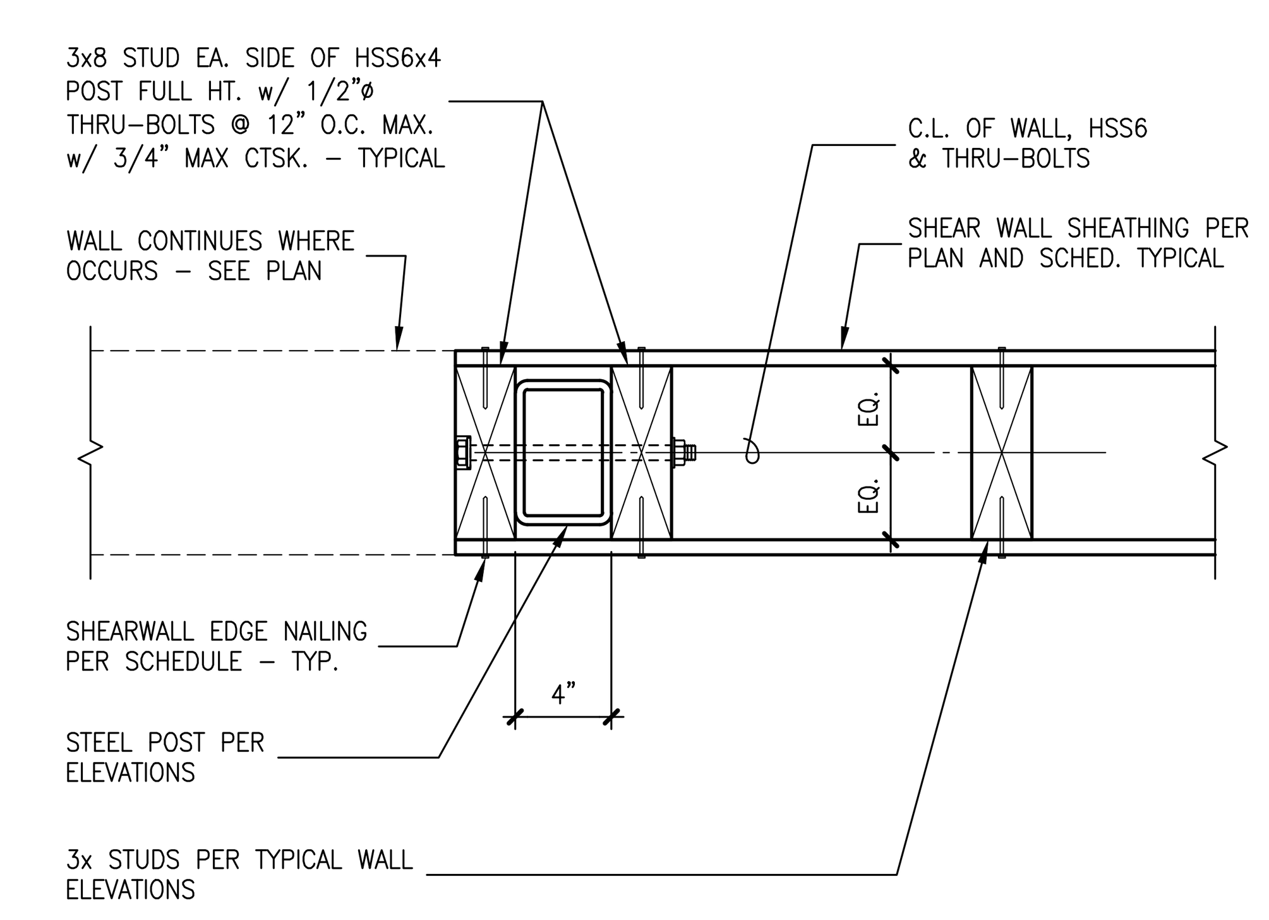

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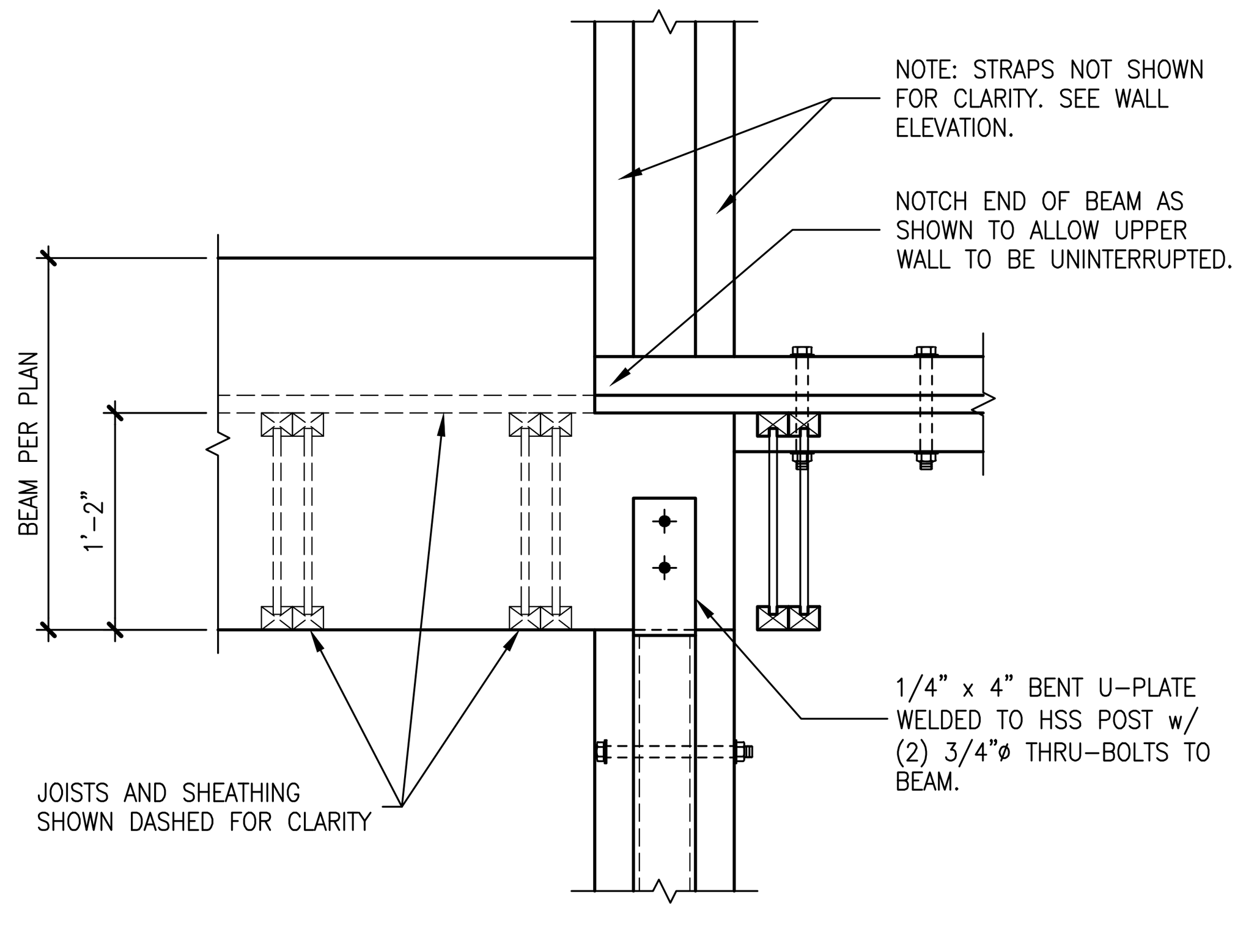

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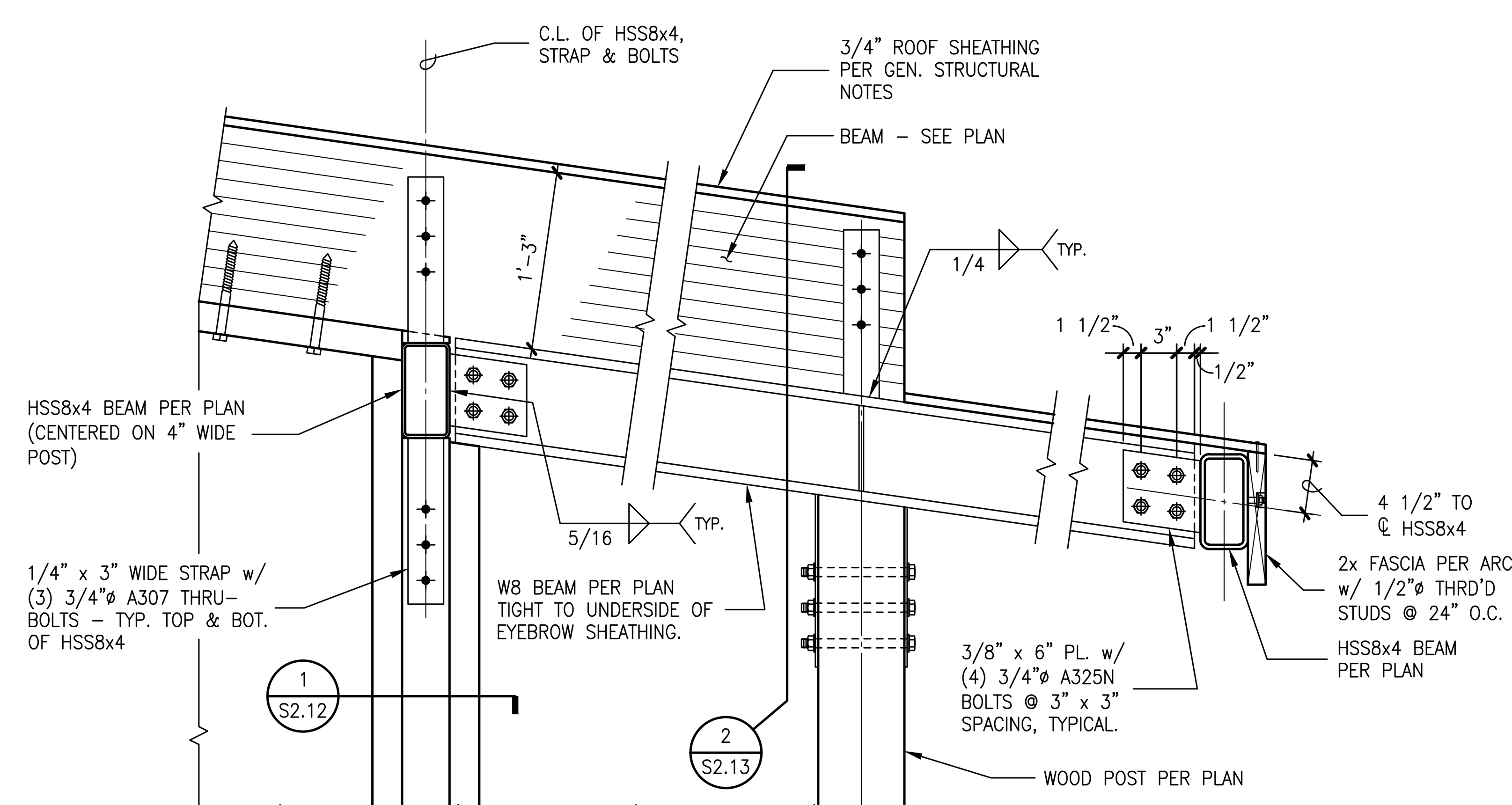

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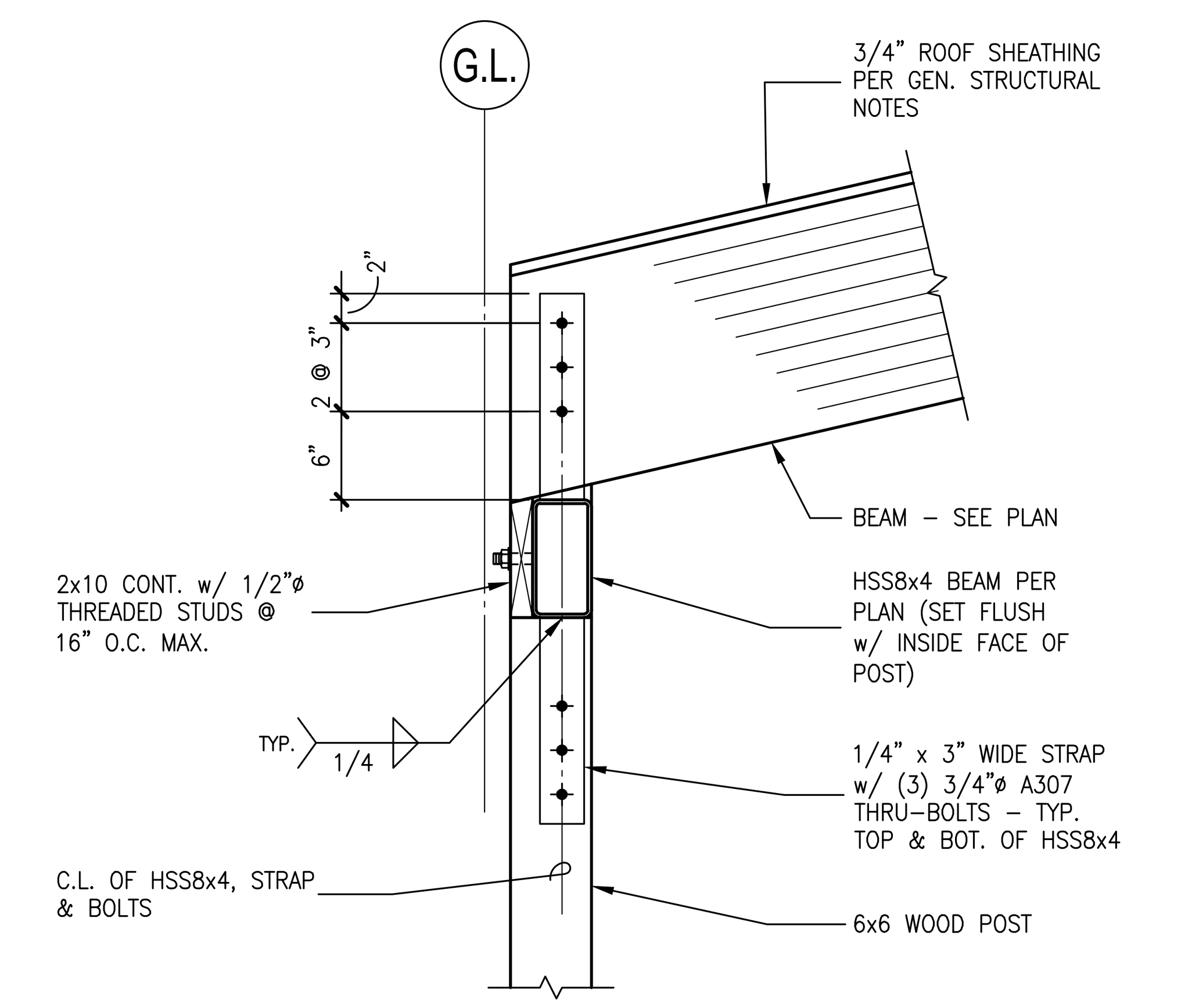

3

architect
STUDIO MA
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sma project no.
16-101

sma project name
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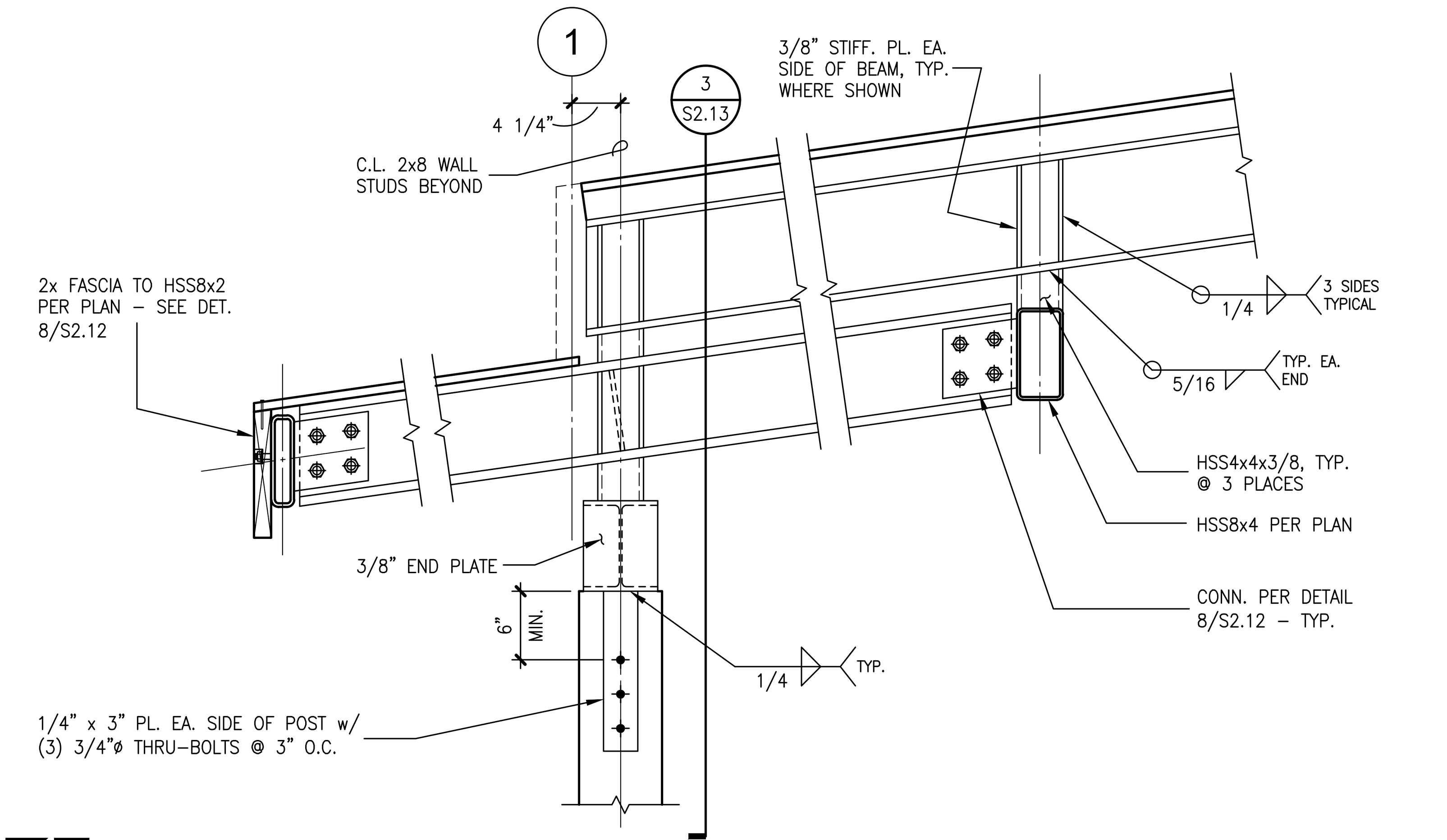
MARK A. RUDOW
06/01/17
STATE OF UTAH

s2.12
SHEAR WALL FRAMING DETAILS

VARIES
scale

PERMIT SET
phase / rev

2017.06.01
date



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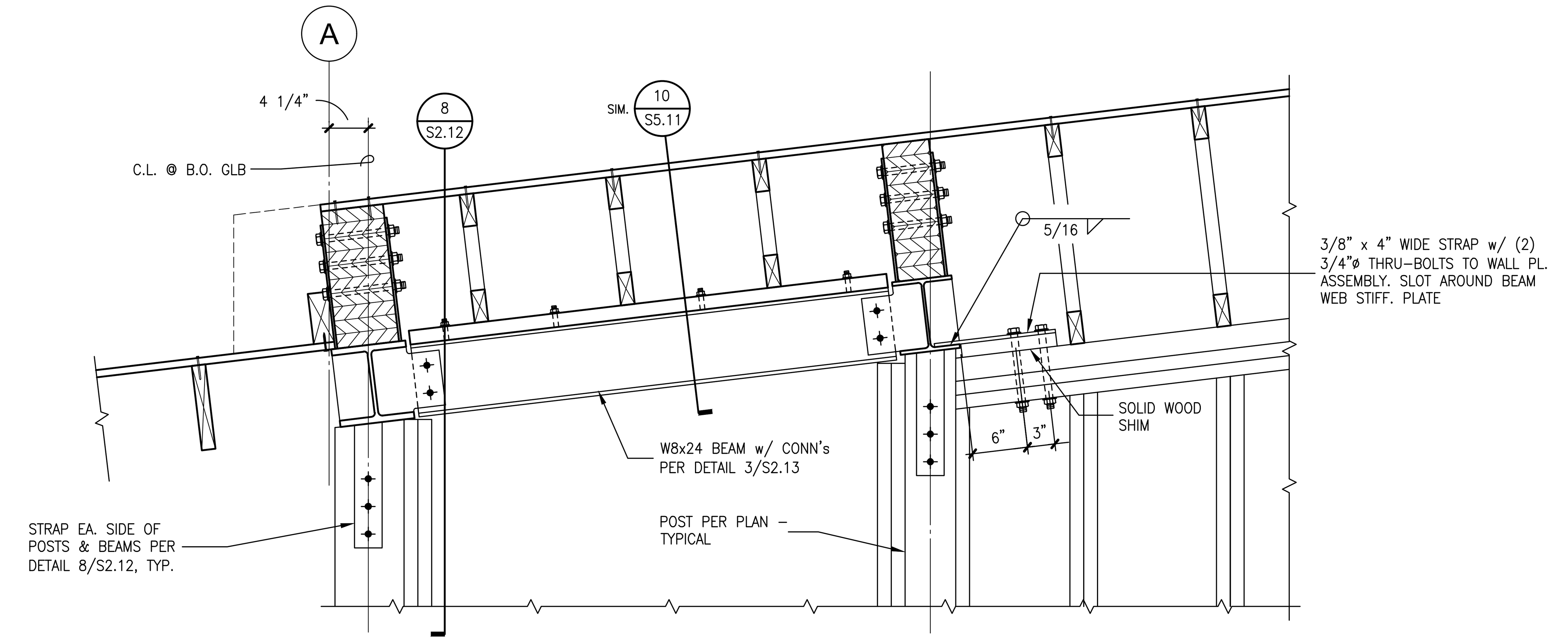

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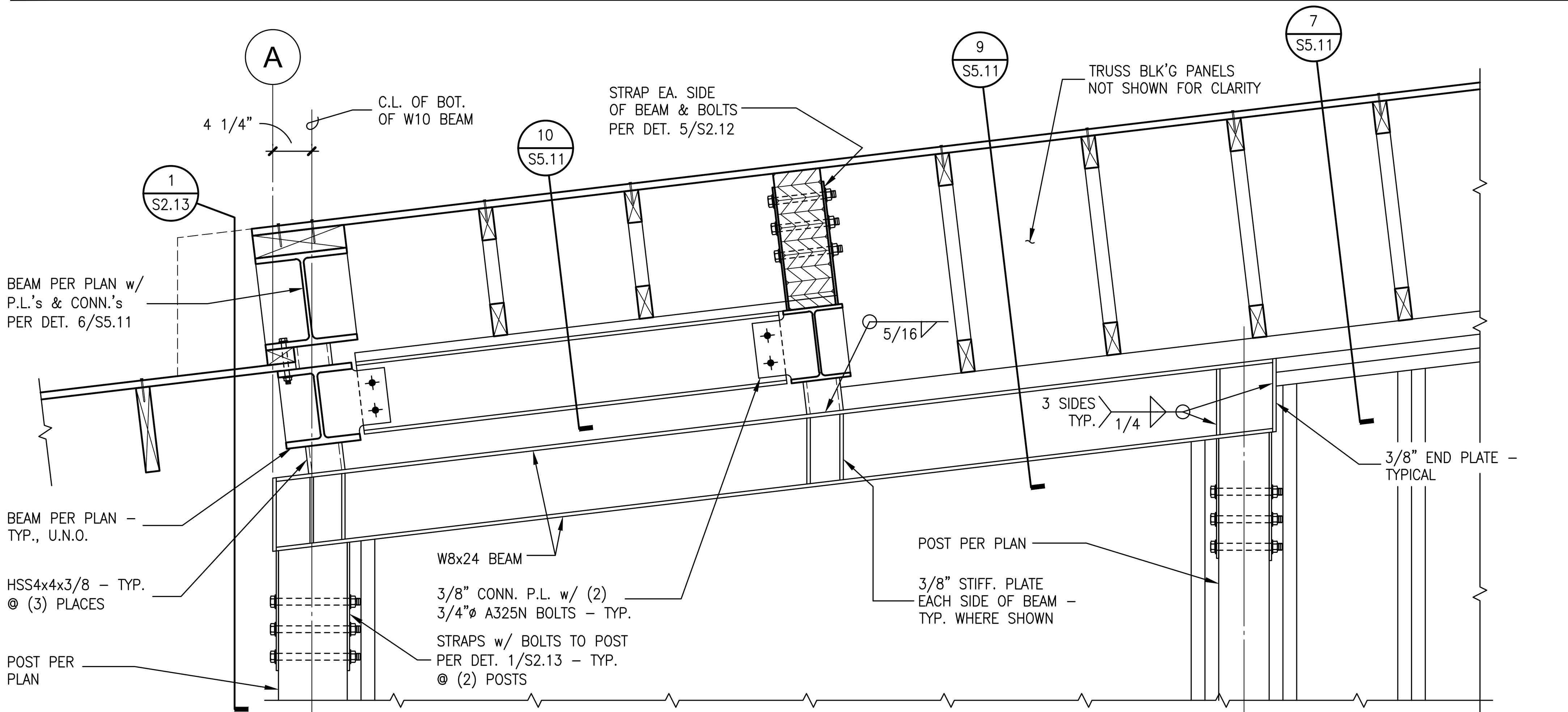

3

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PROFESSIONAL ENGINEER
9250862-2202
MARK A.
RUDOW
06/01/17
STATE OF UTAH

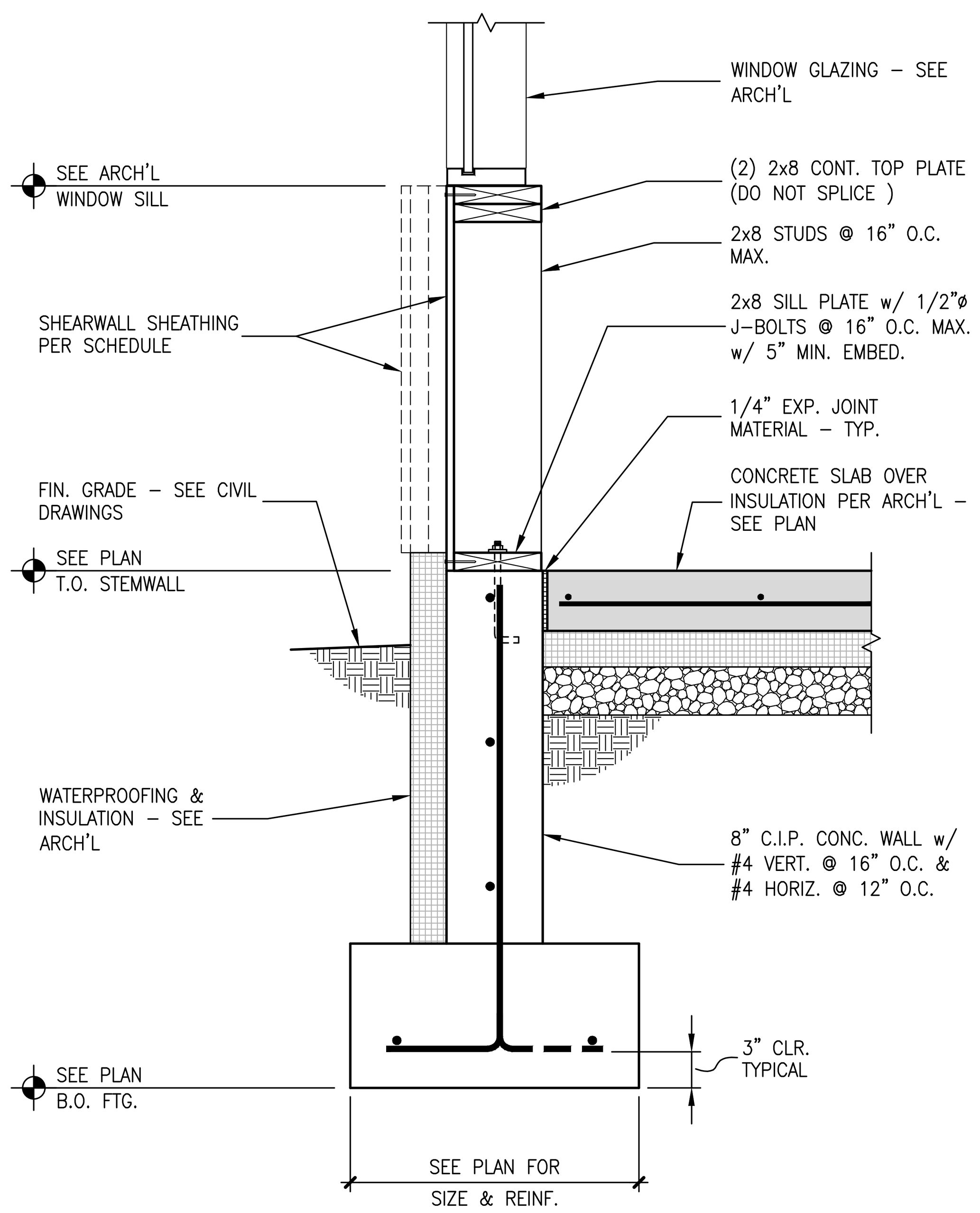
s2.13

SHEAR WALL FRAMING DETAILS

VARIES
scale

PERMIT SET
phase / rev

2017.06.01
date



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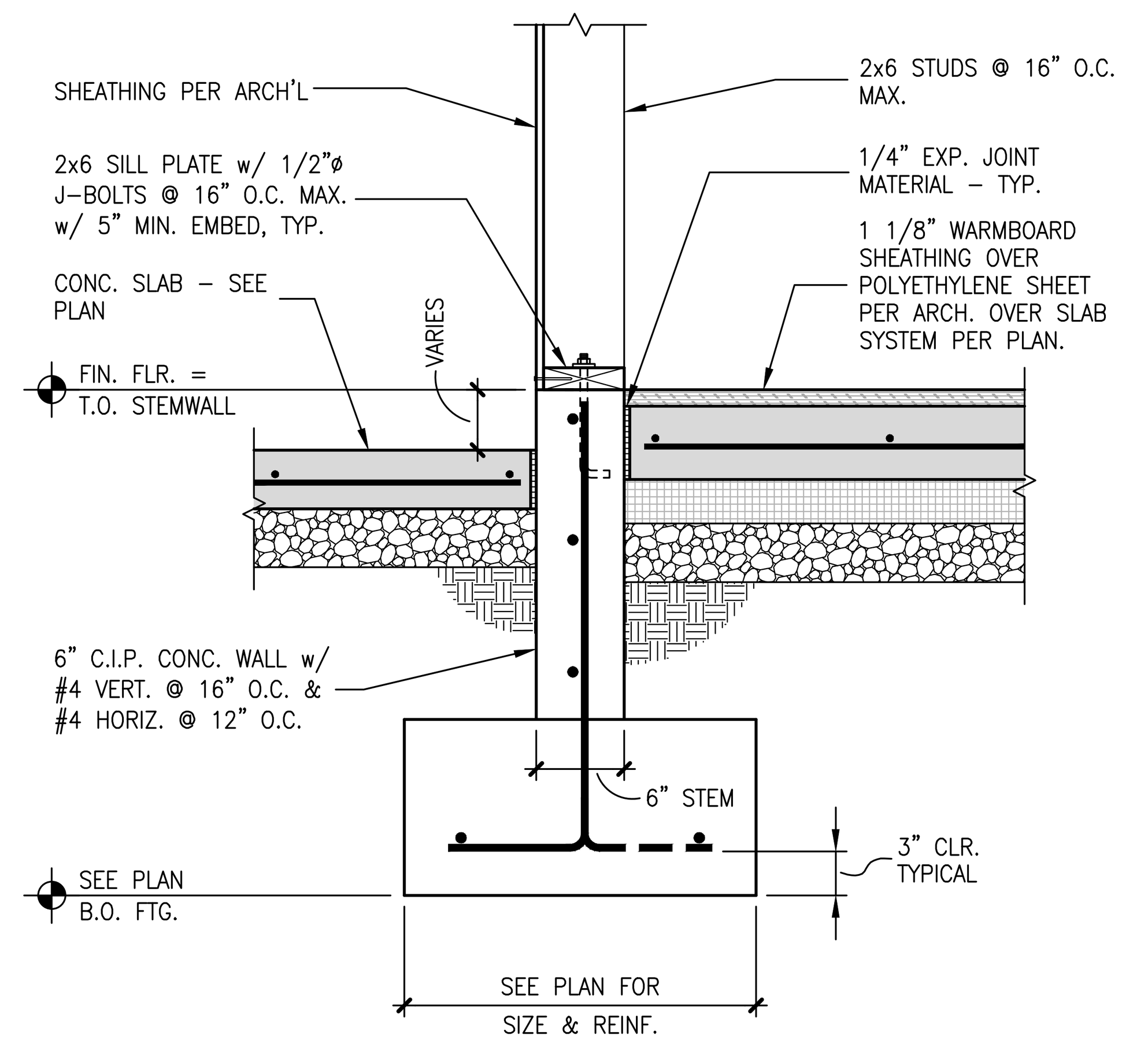

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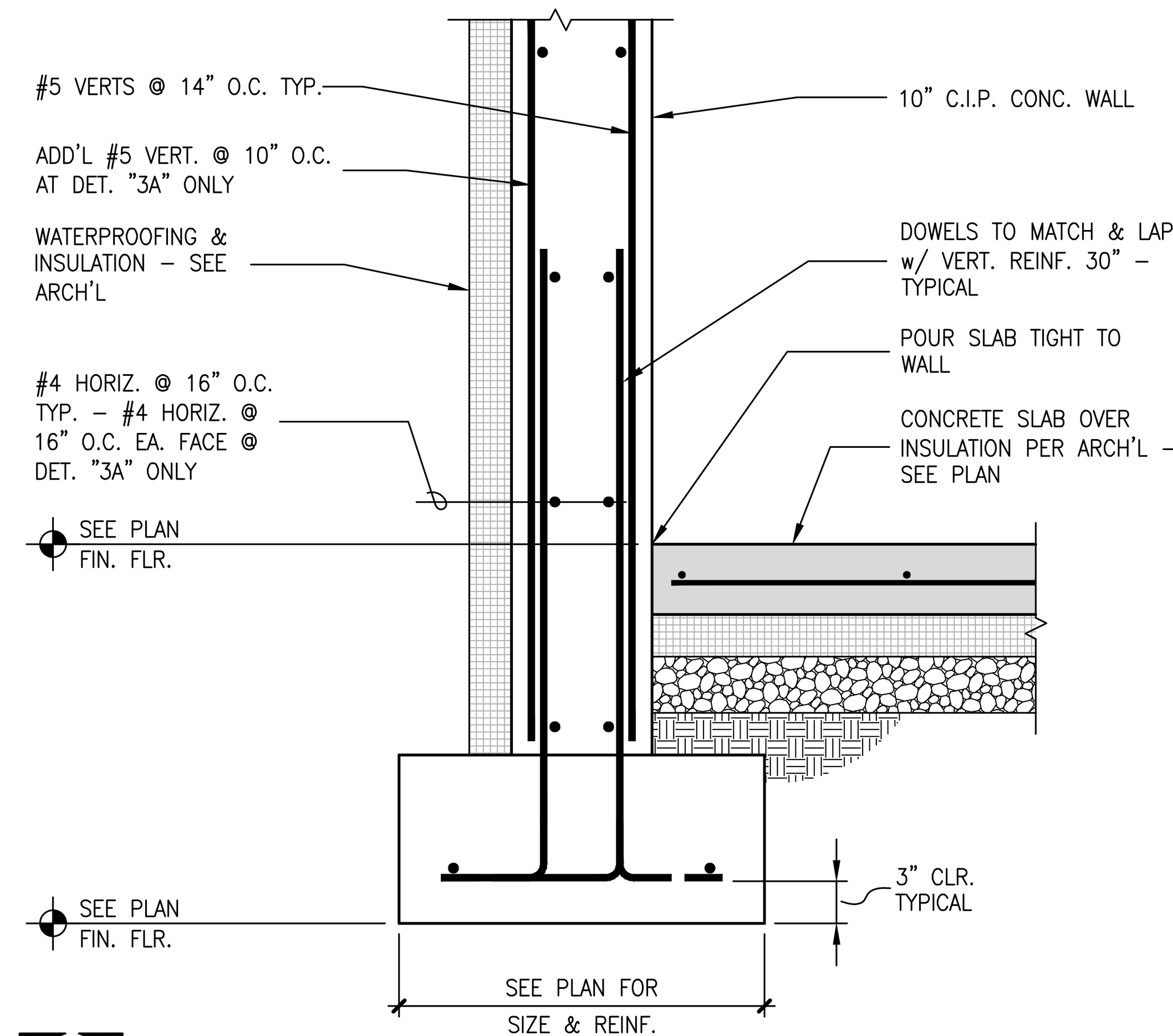

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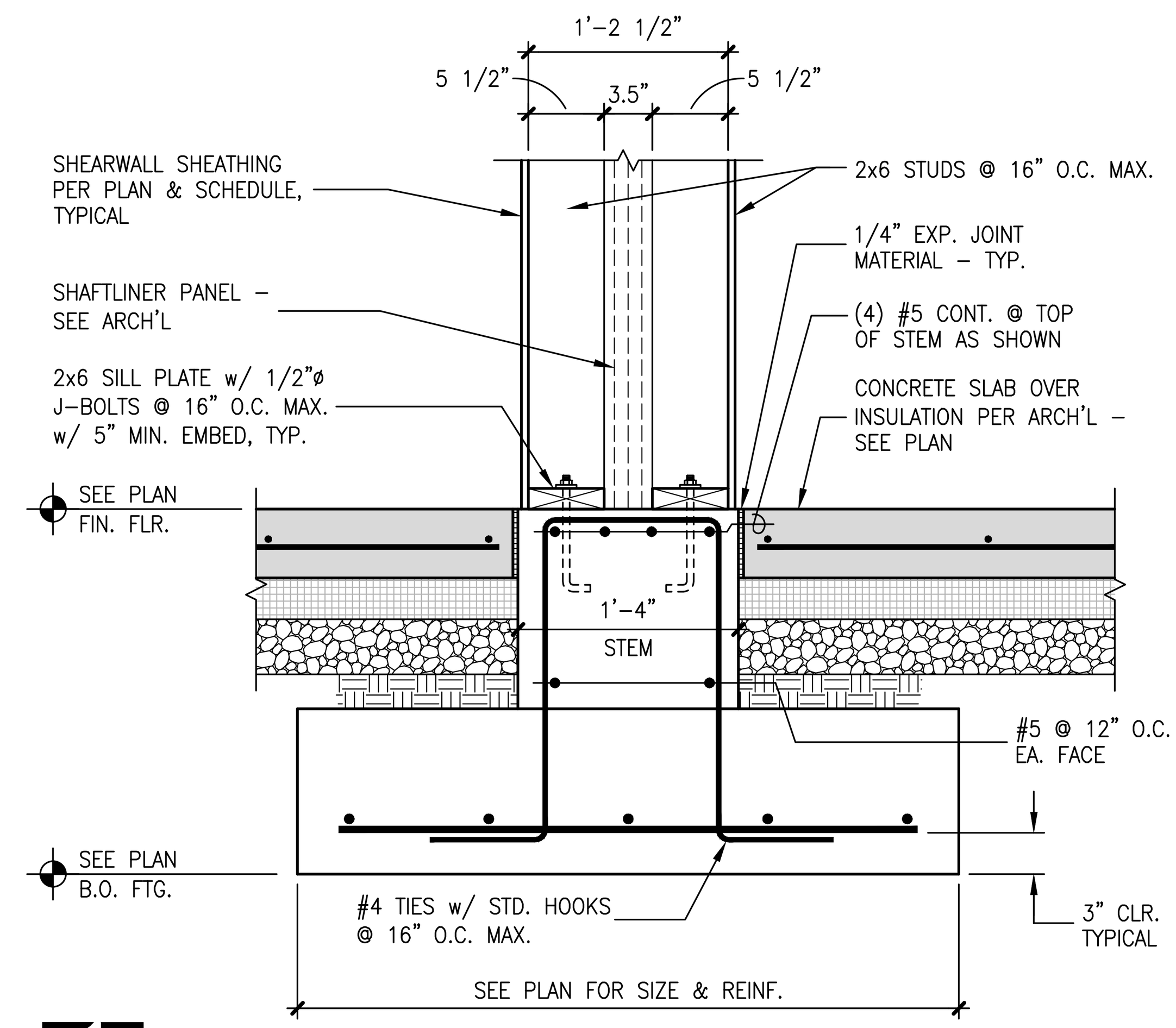

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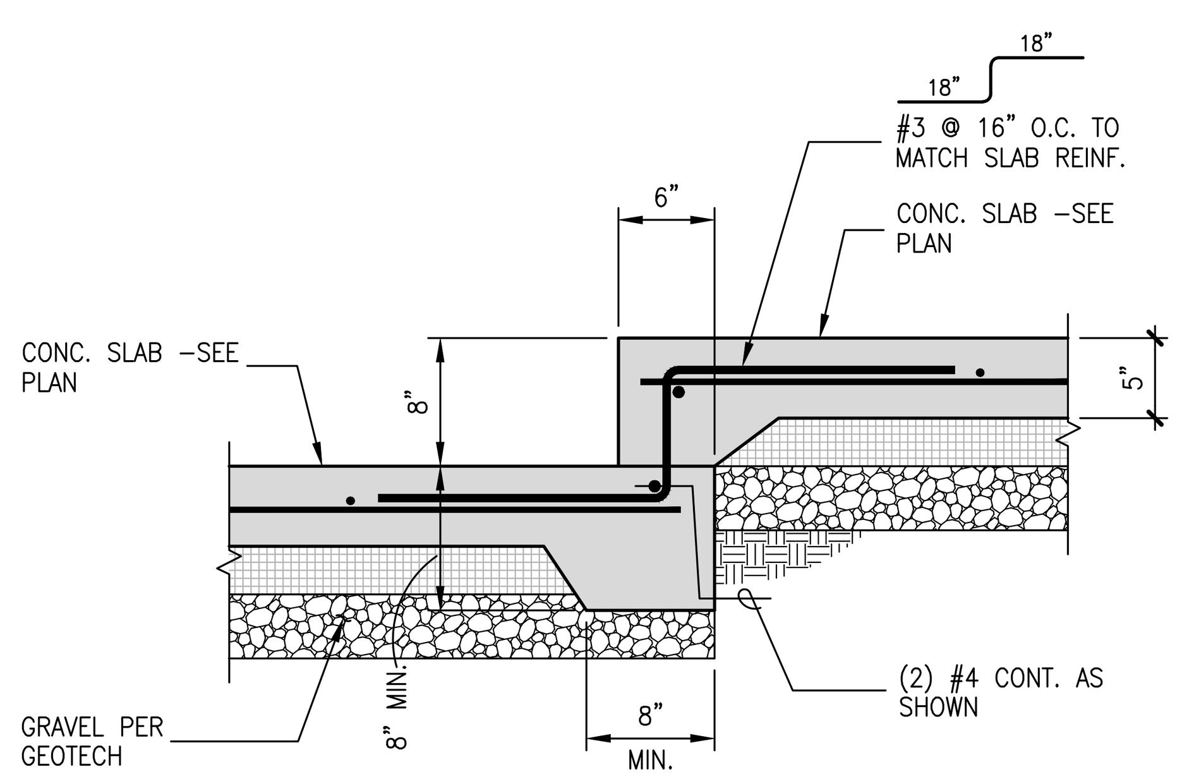

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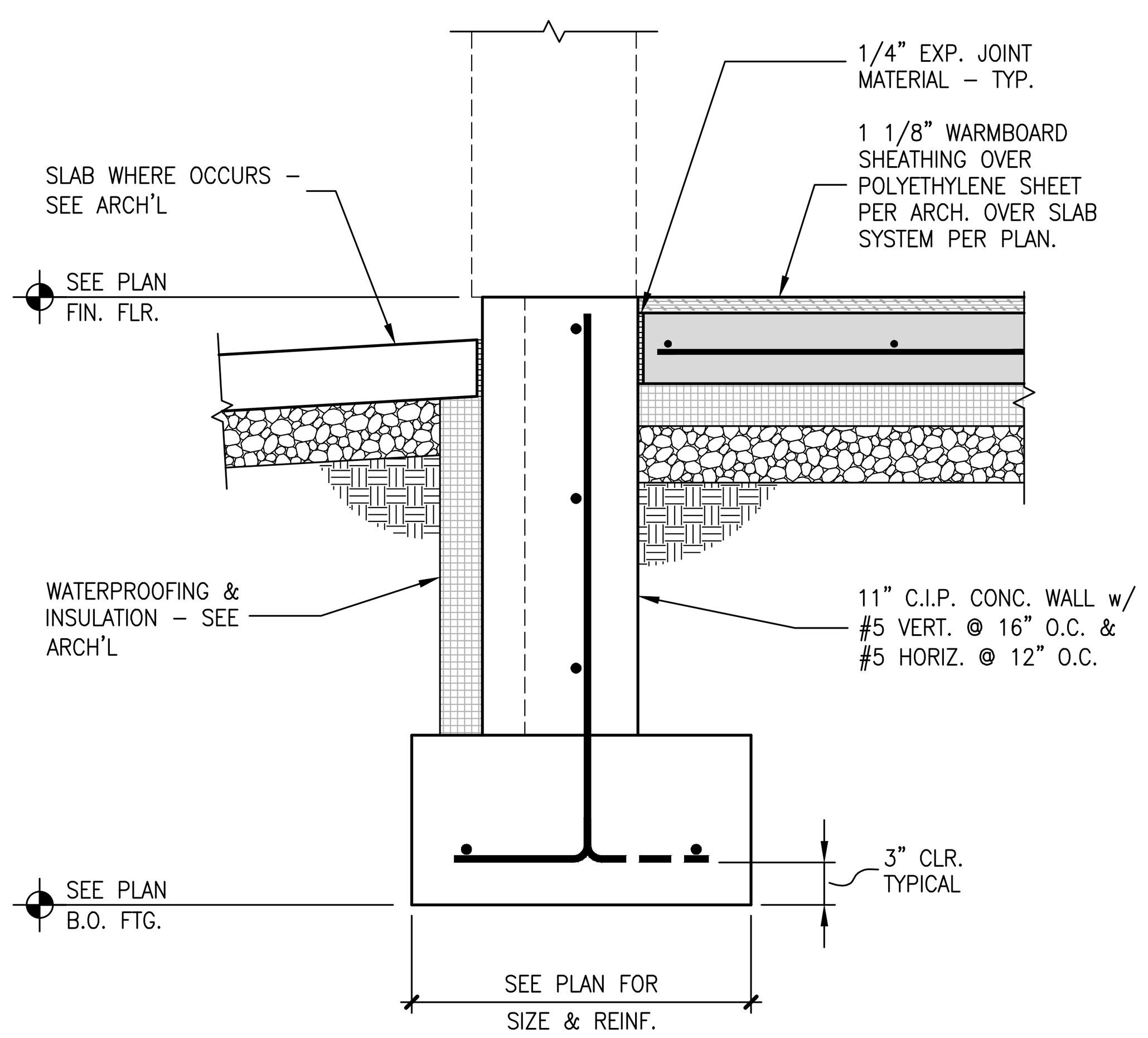

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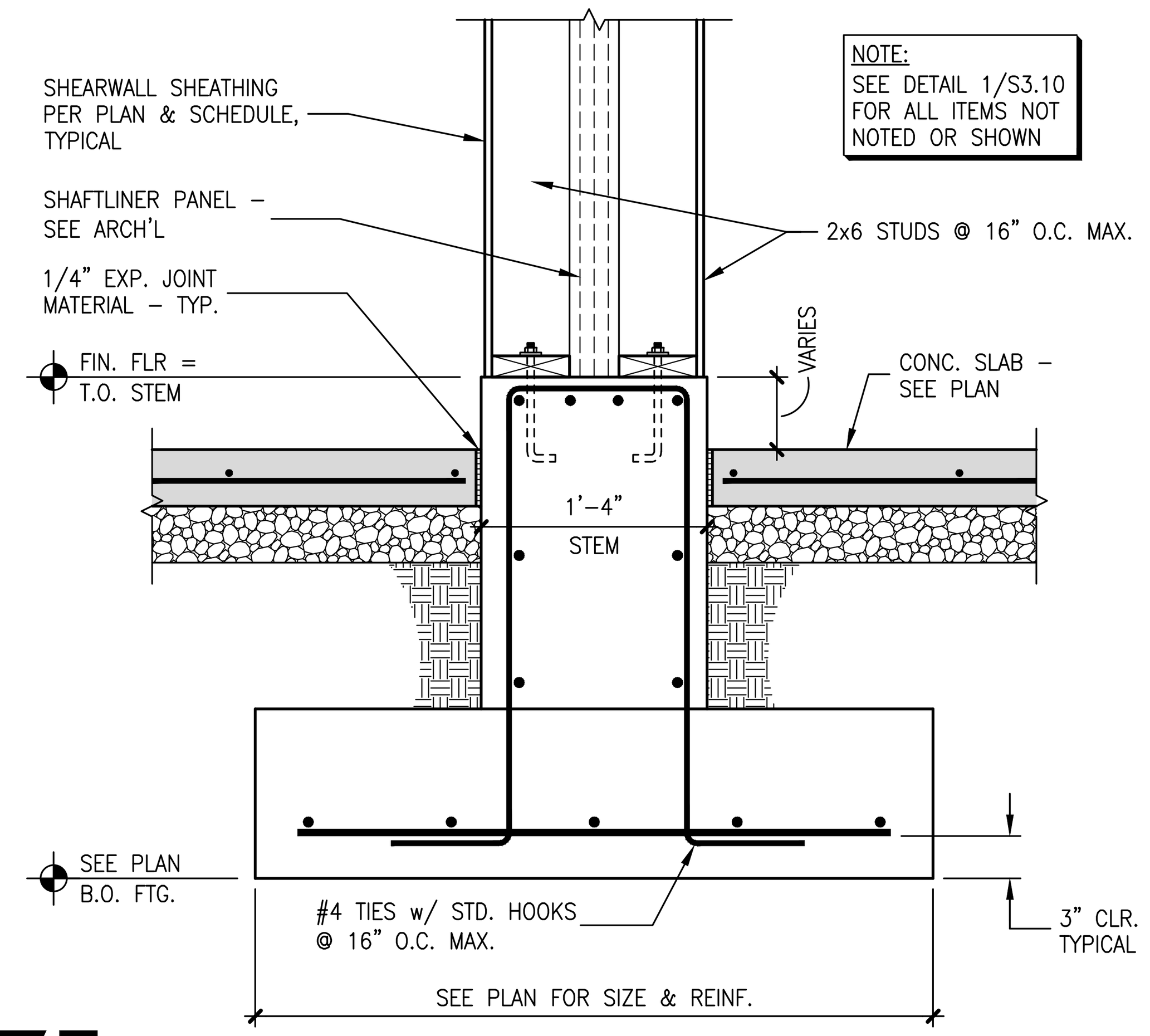

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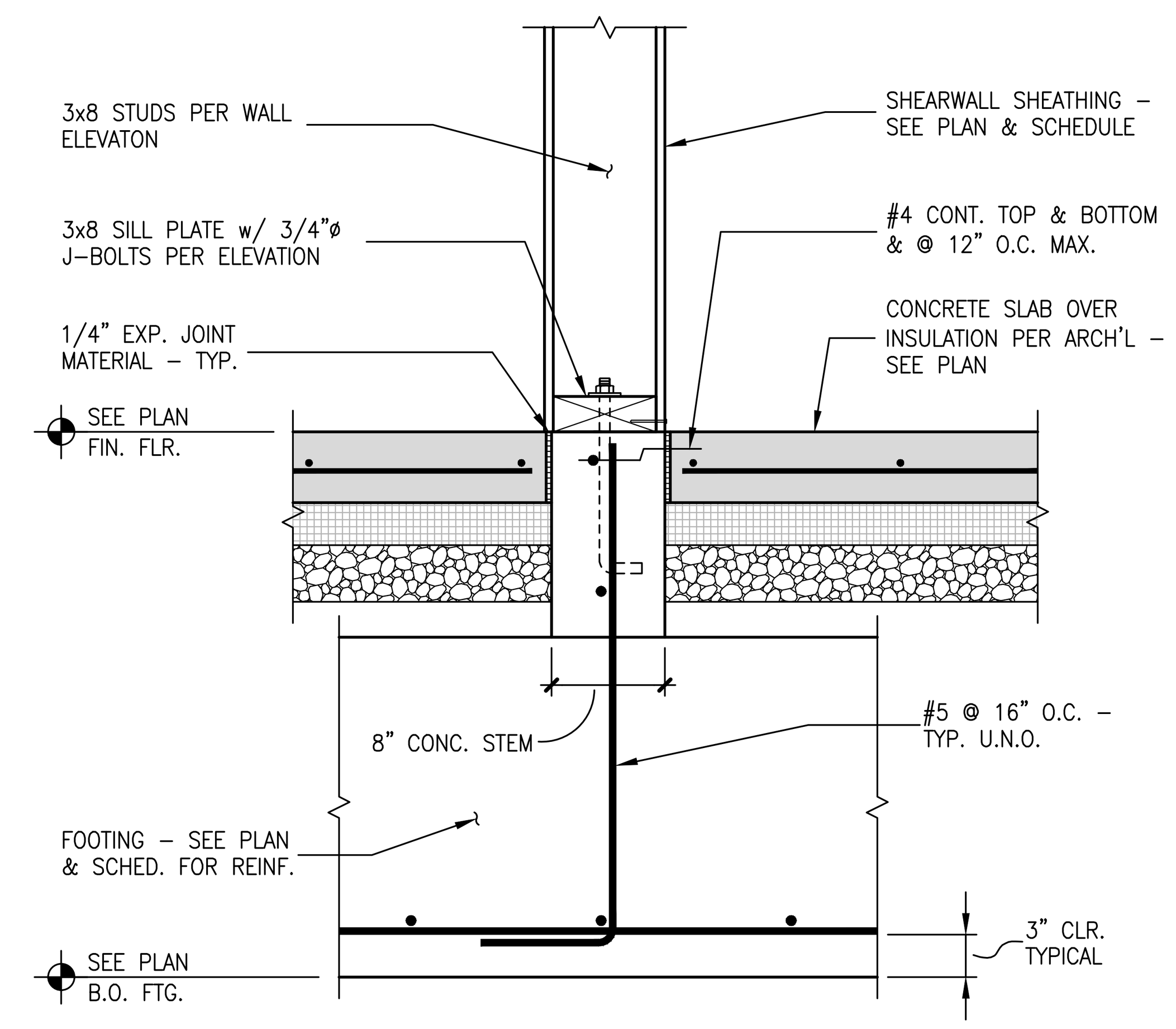

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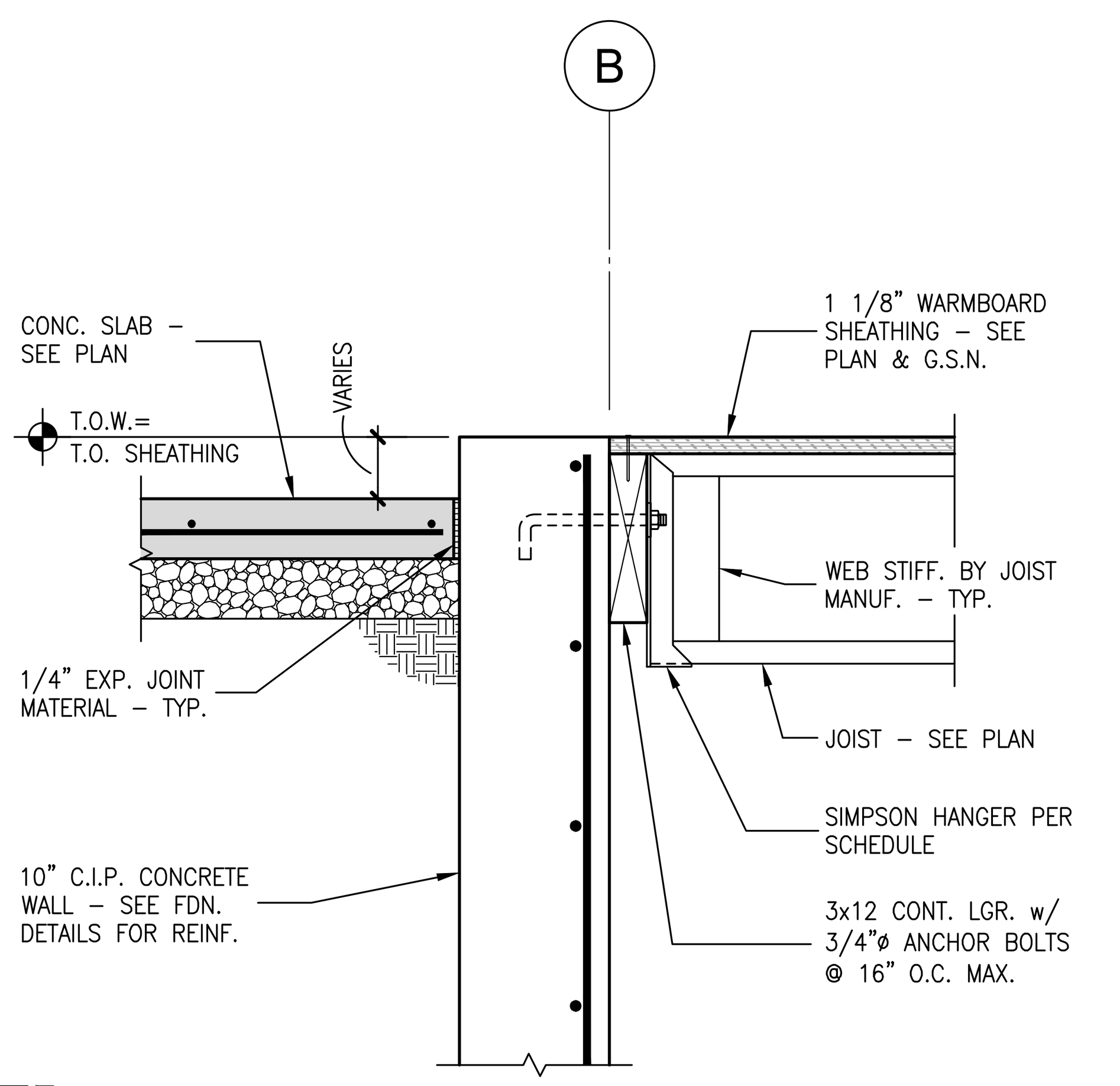

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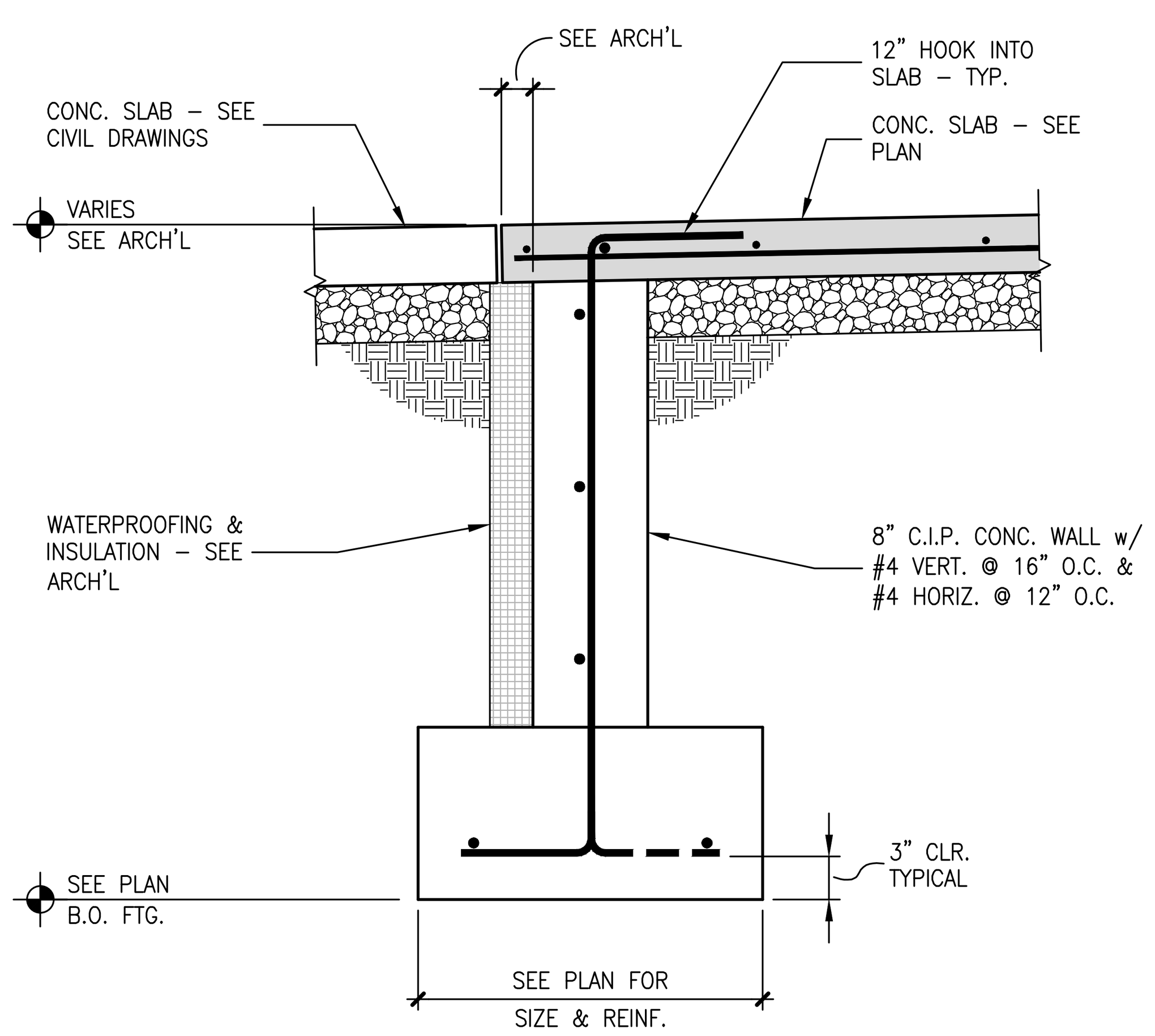

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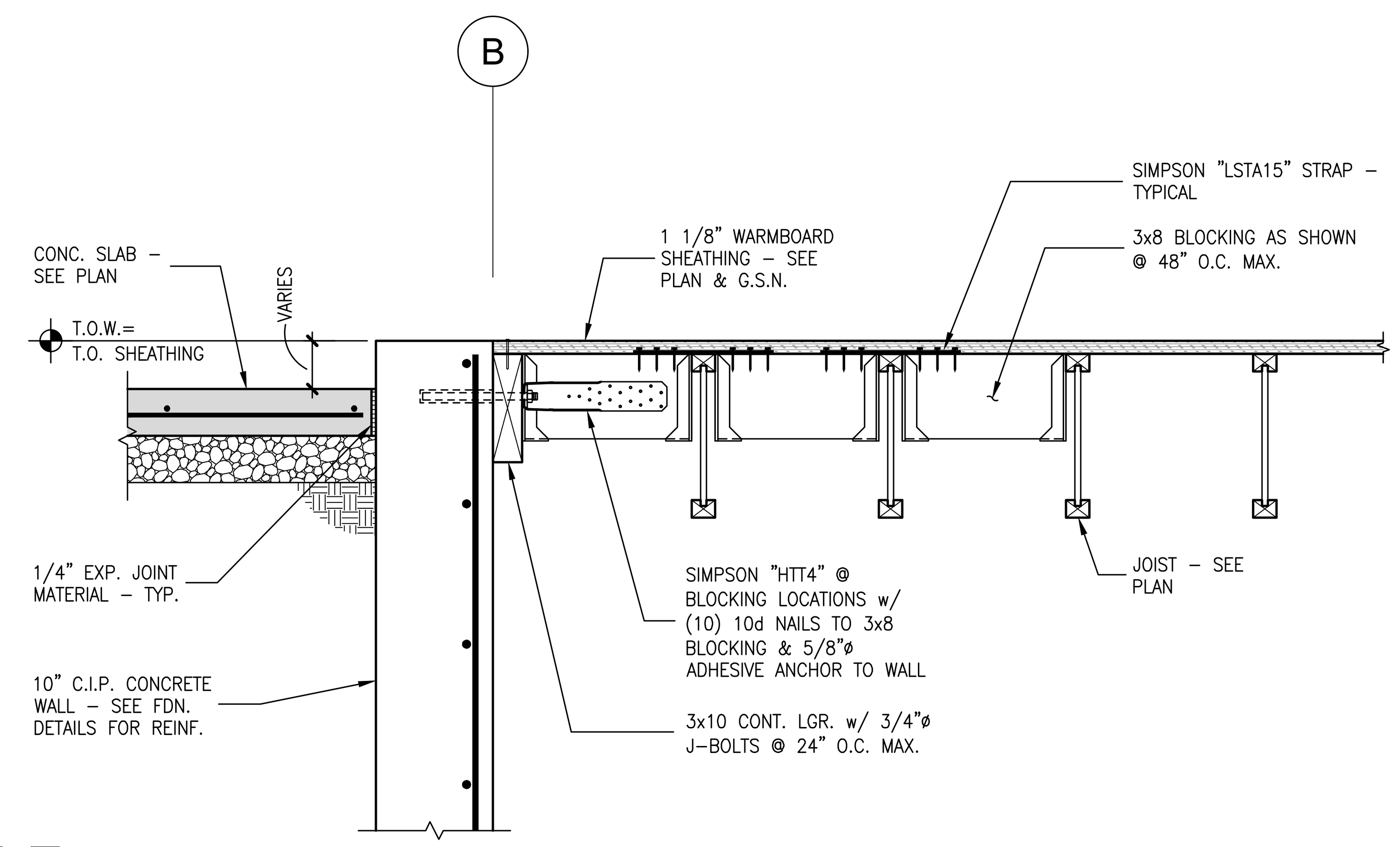

5

architect
STUDIO MA
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sma project no.
16-101

sma project name
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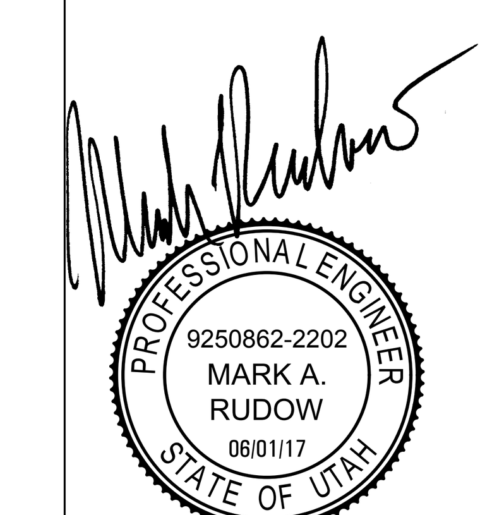
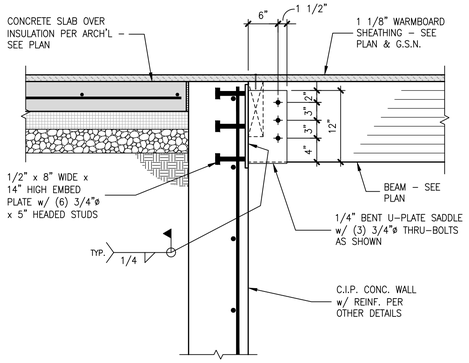


s3.10
FOUNDATION DETAILS

VARIES
scale

PERMIT SET
phase / rev

2017.06.01
date



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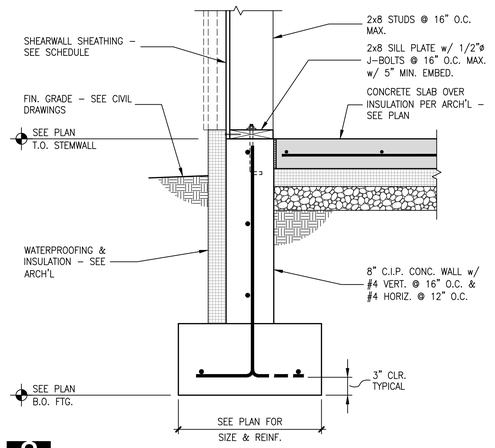

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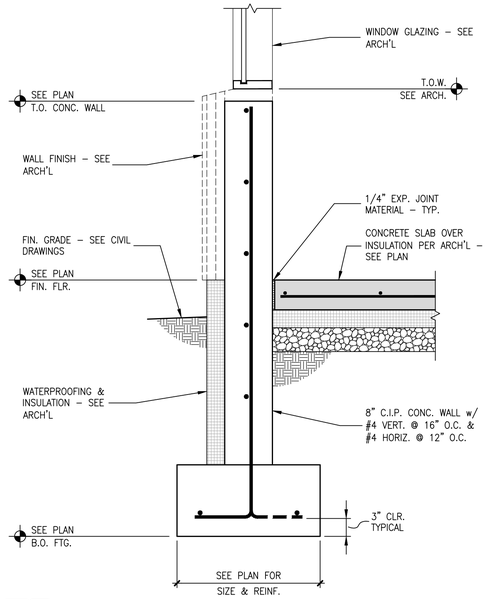

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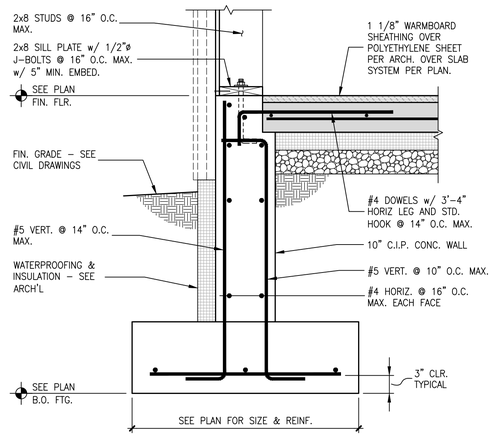

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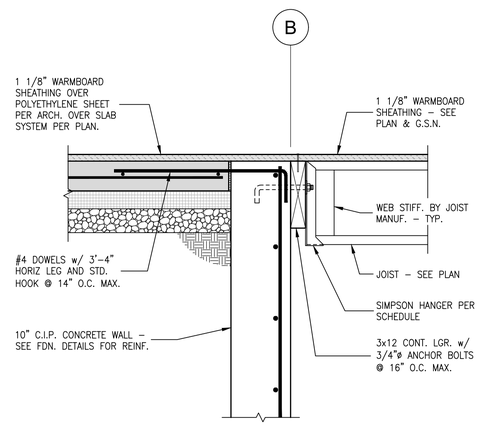

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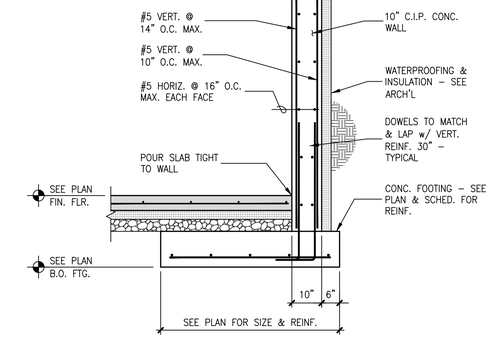

2

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FOUNDATION DETAILS

VARIES
scale

PERMIT SET
phase / rev

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date

AutoCAD Version: 2017
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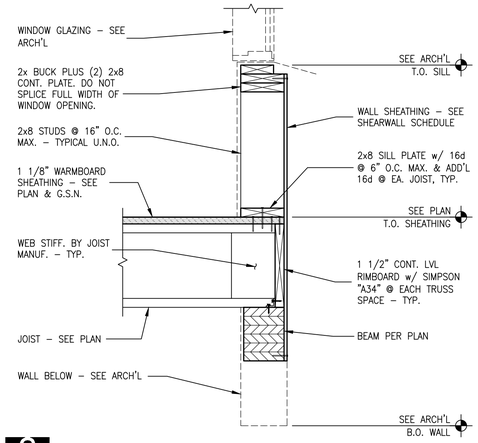

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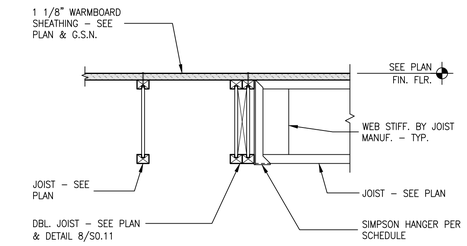

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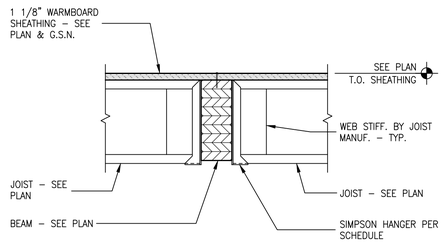

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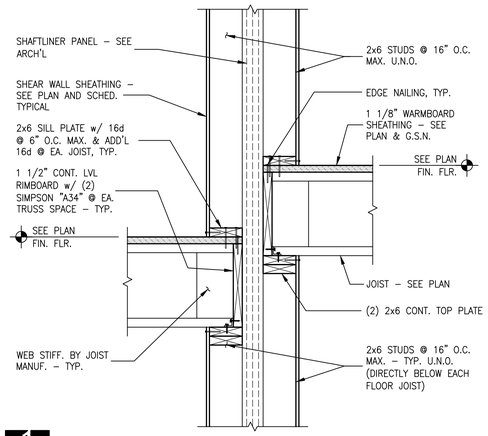

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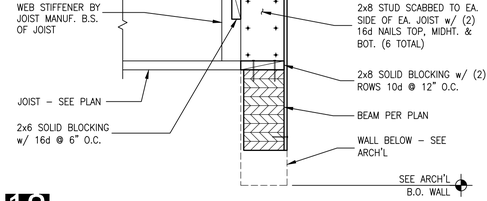

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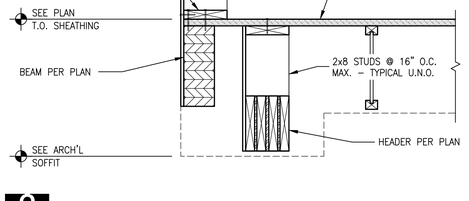

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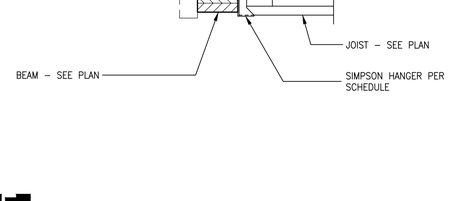

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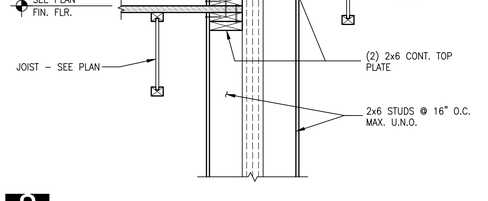

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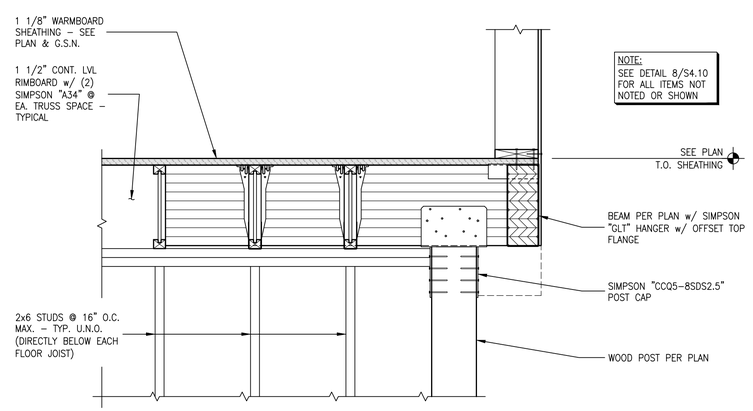

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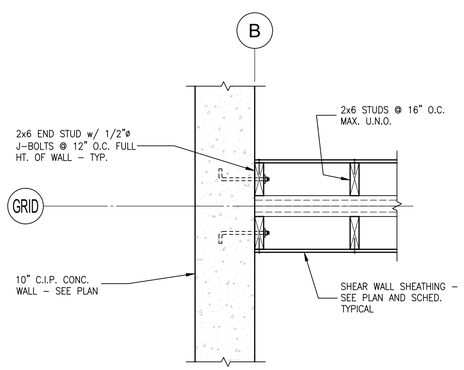

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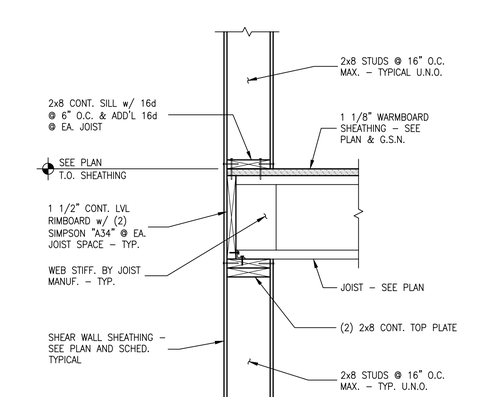

3

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06/01/17
STATE OF UTAH

s4.10
FLOOR FRAMING DETAILS

VARIES
scale

PERMIT SET
phase / rev

2017.06.01
date

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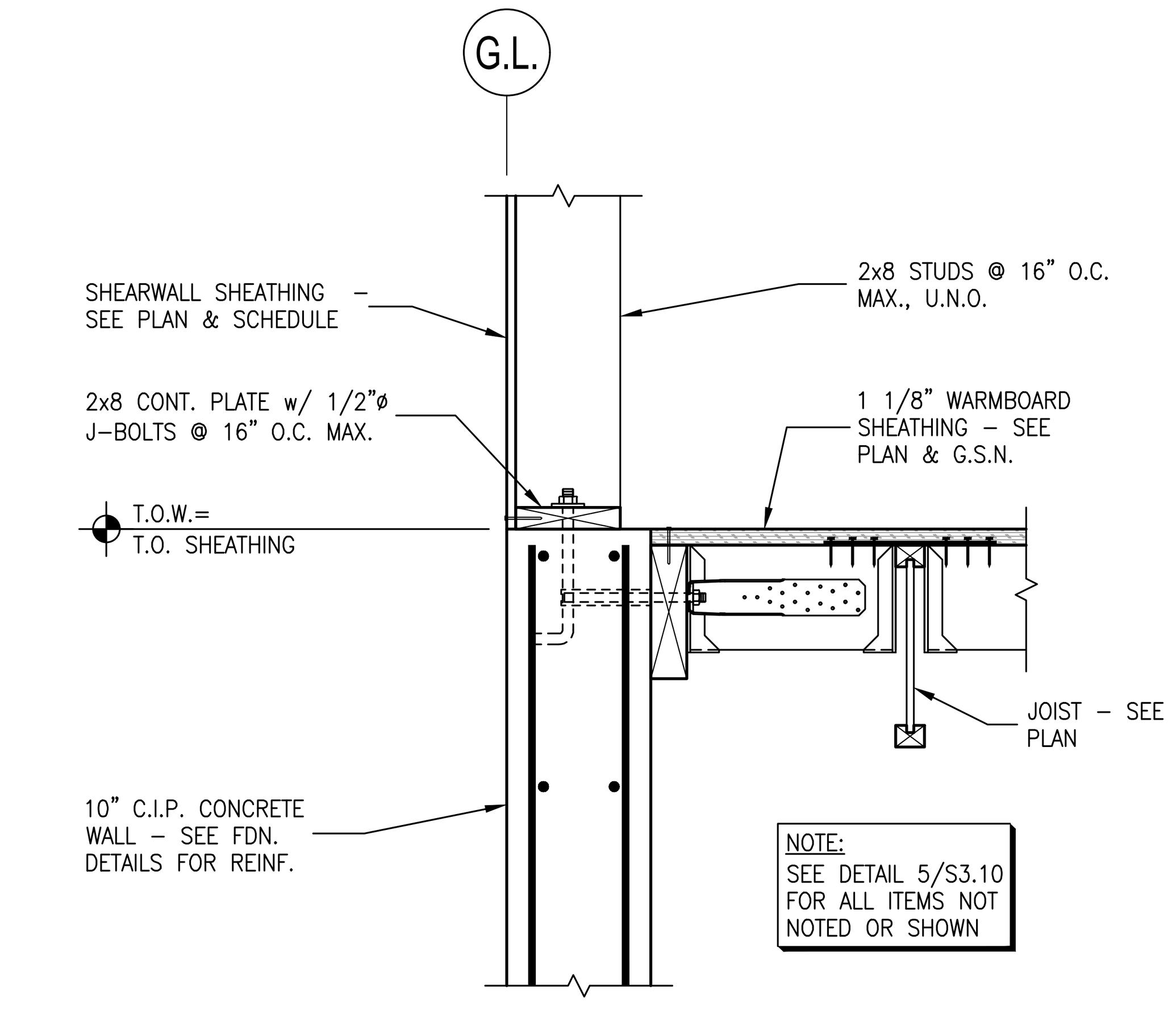

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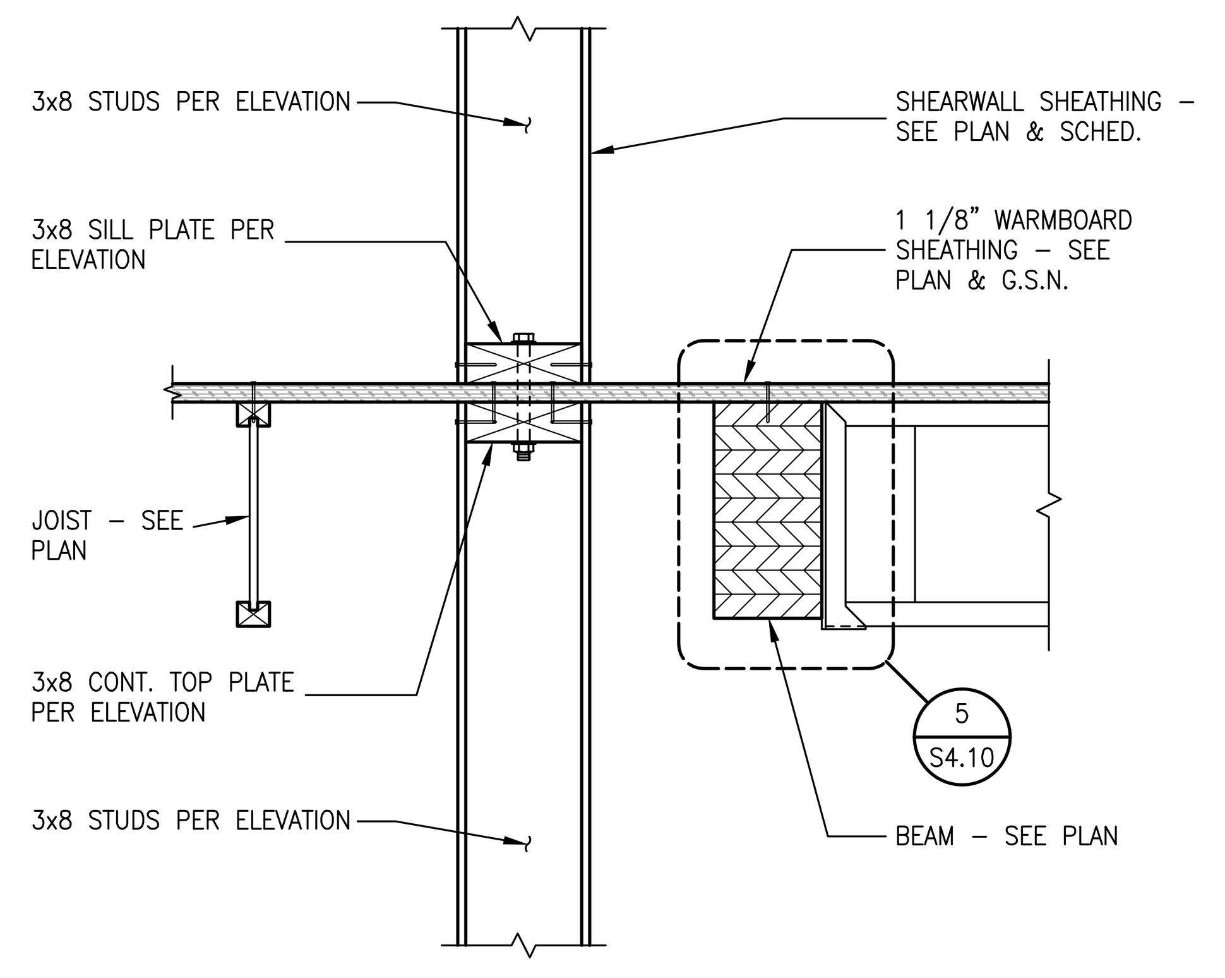

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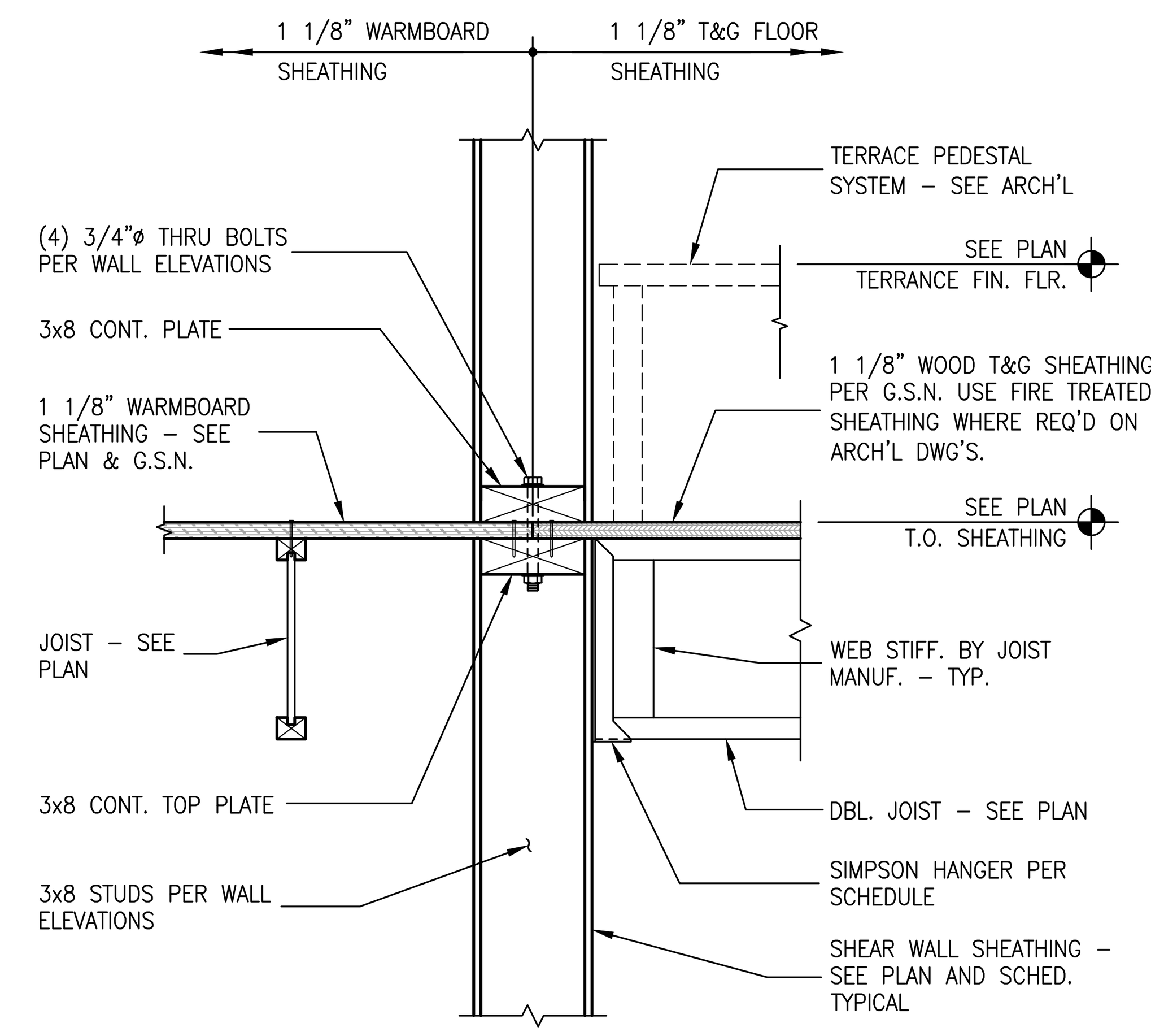

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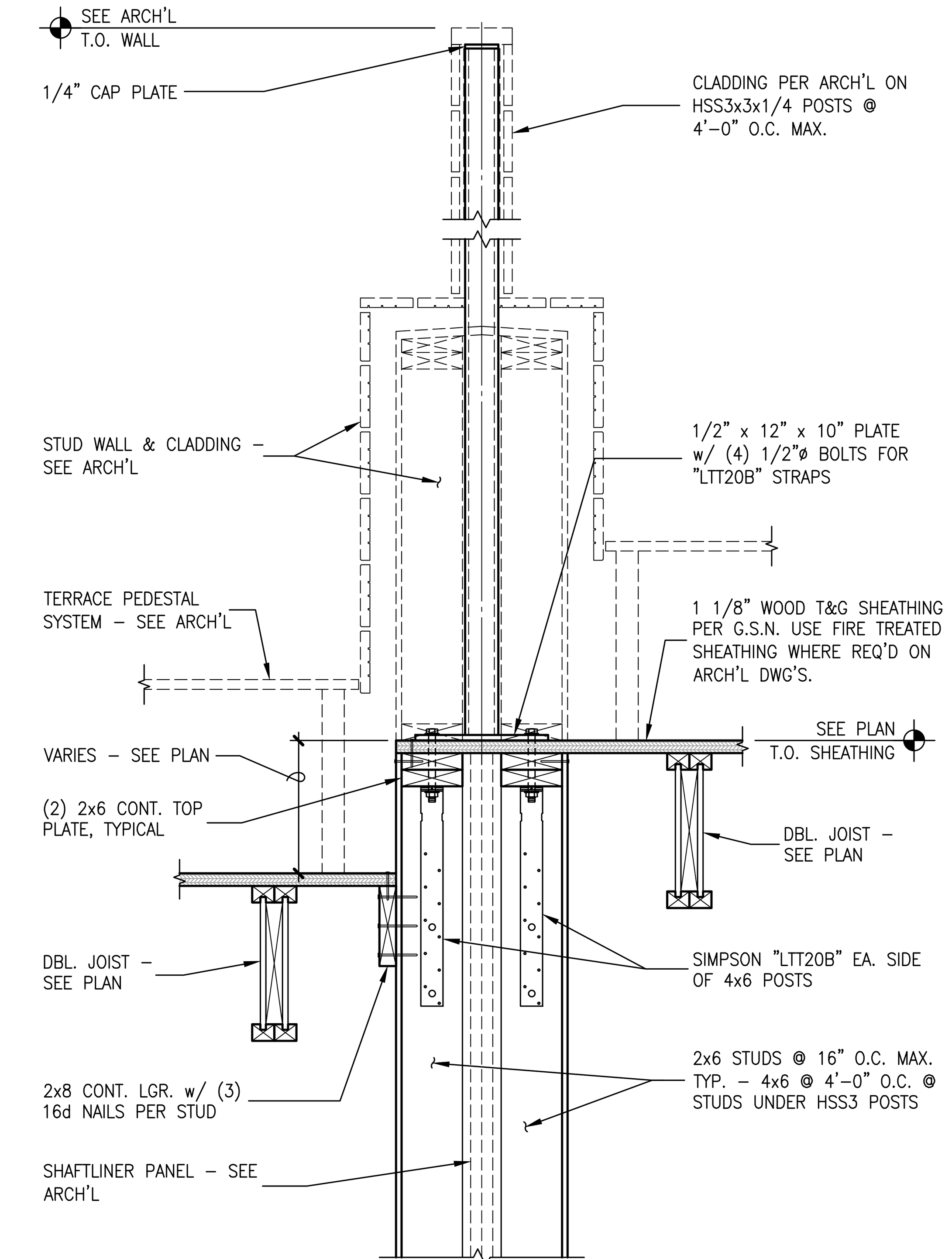

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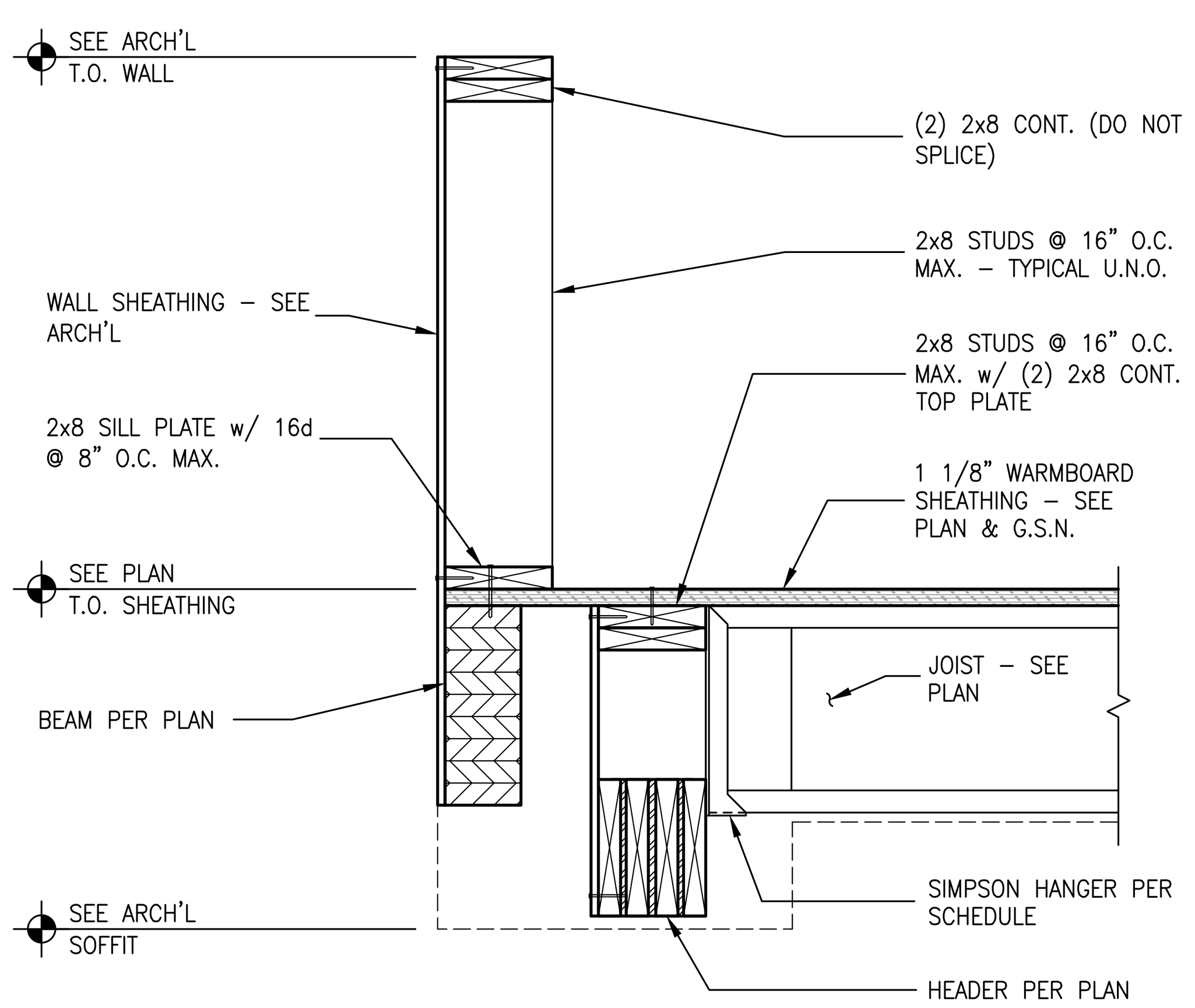

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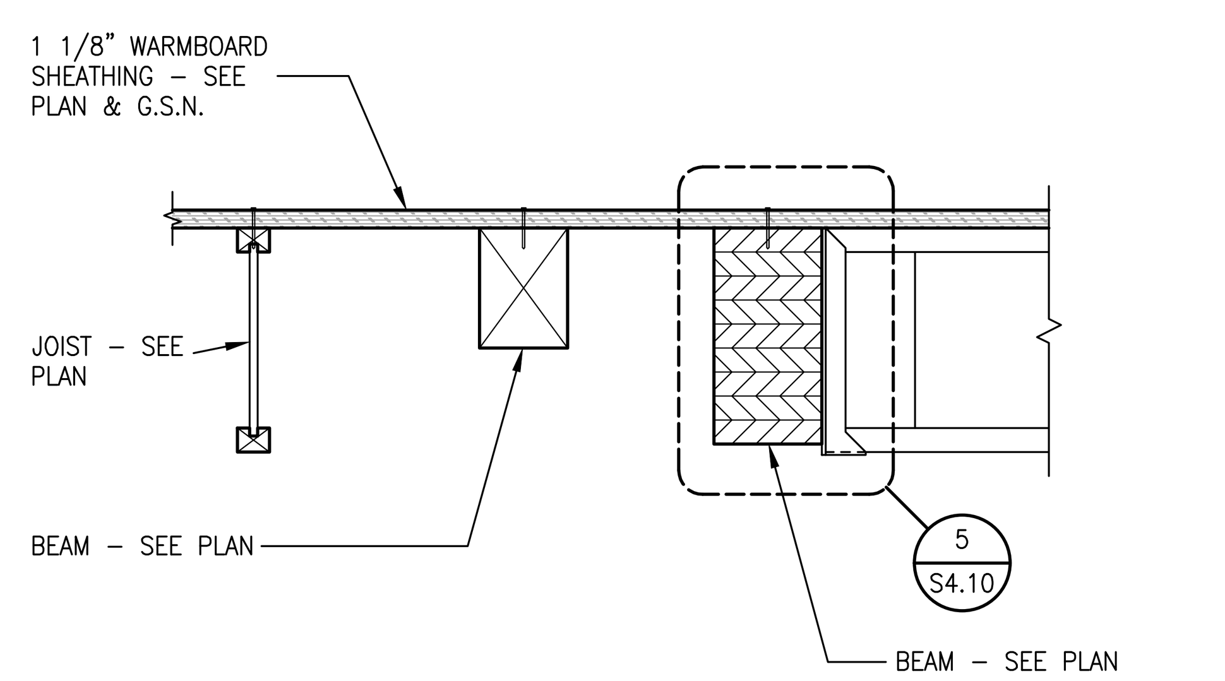

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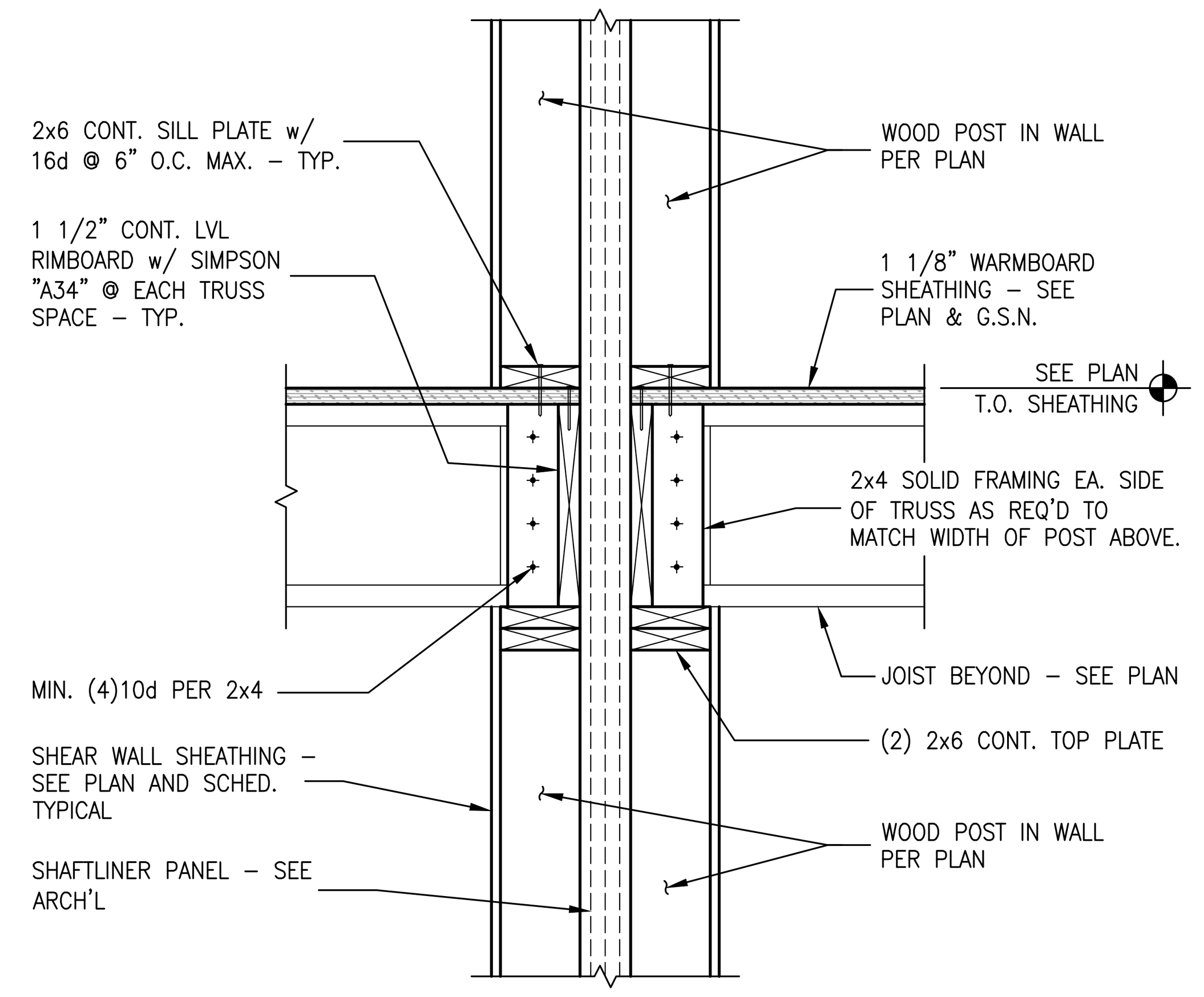

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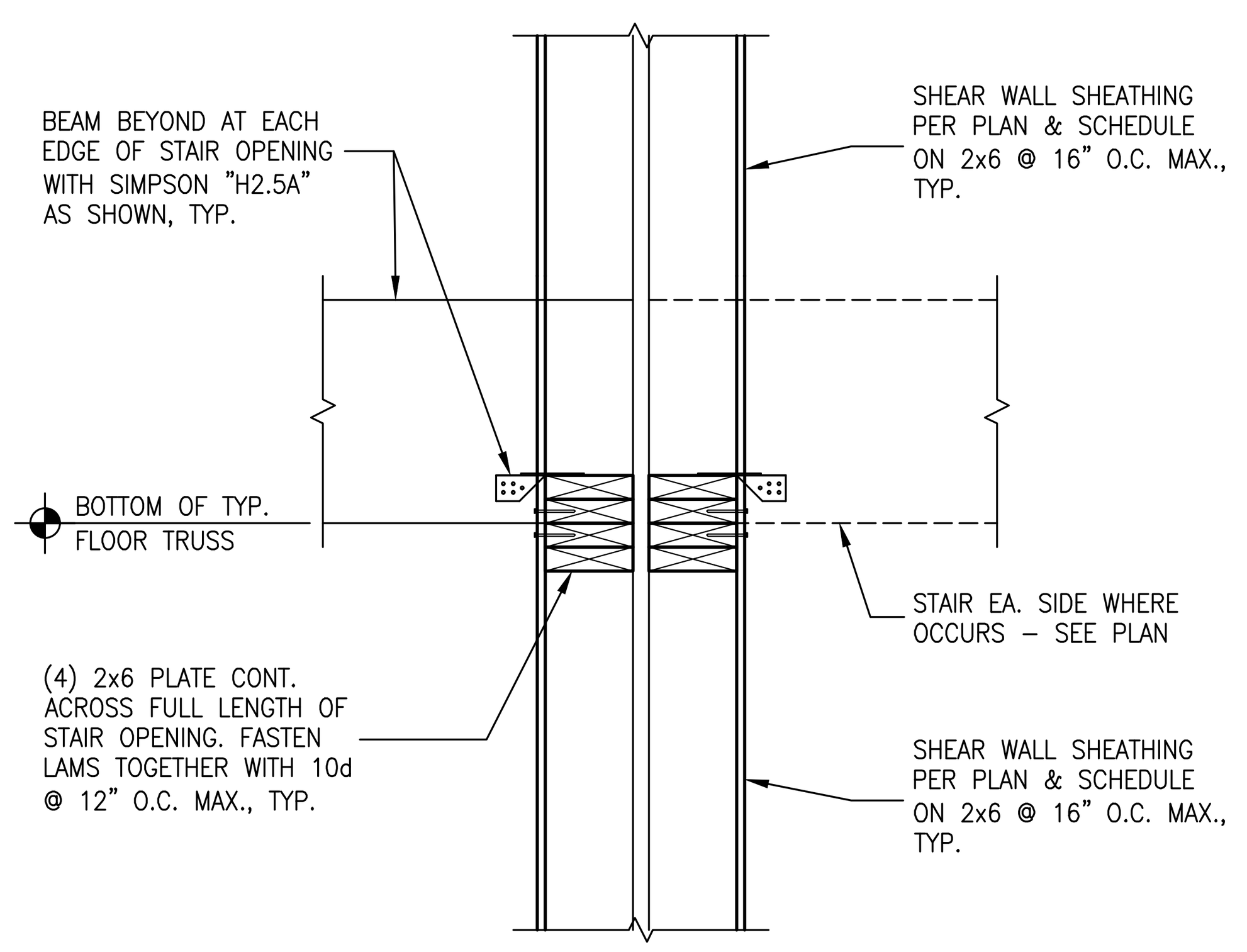

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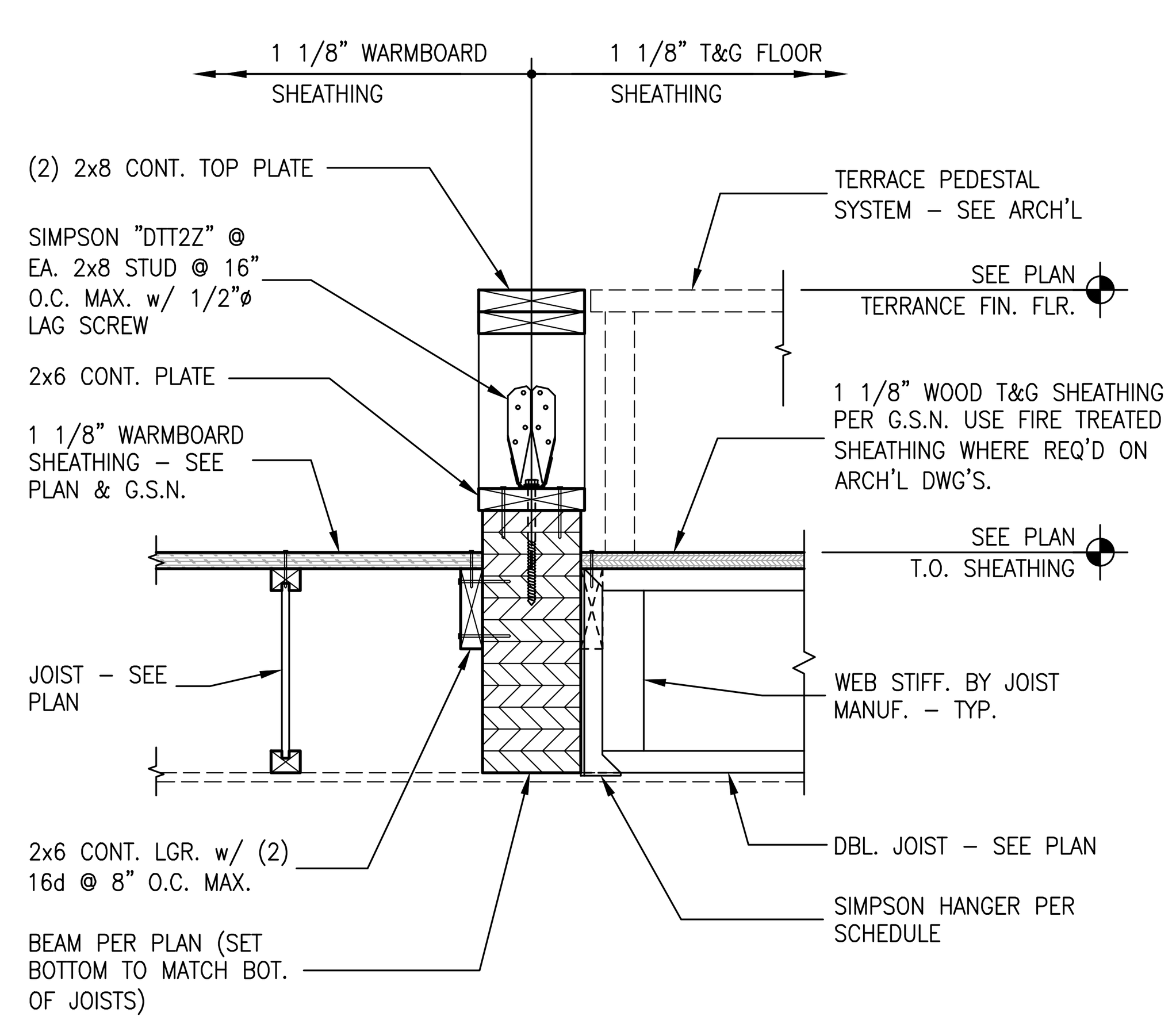

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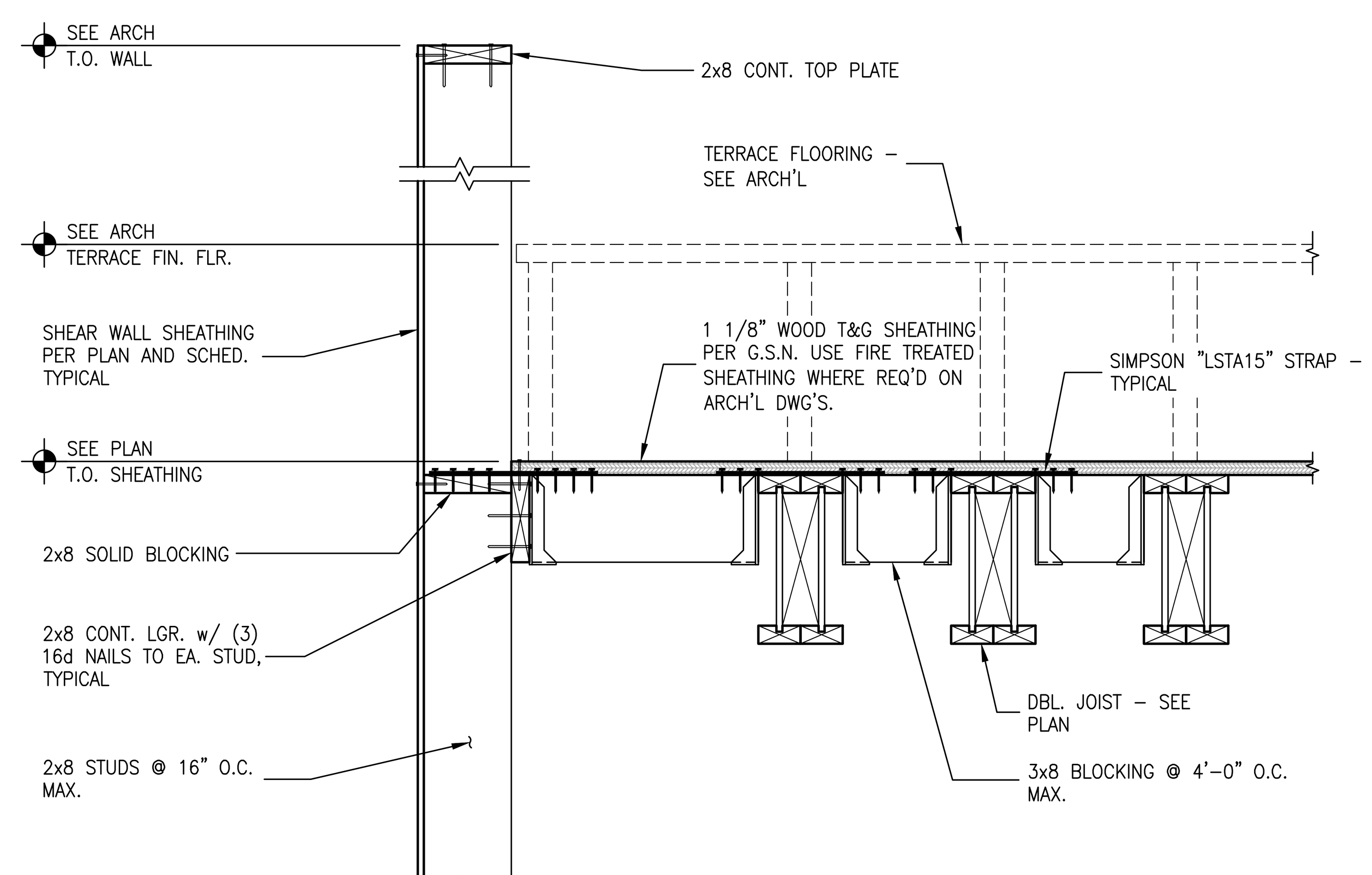

4

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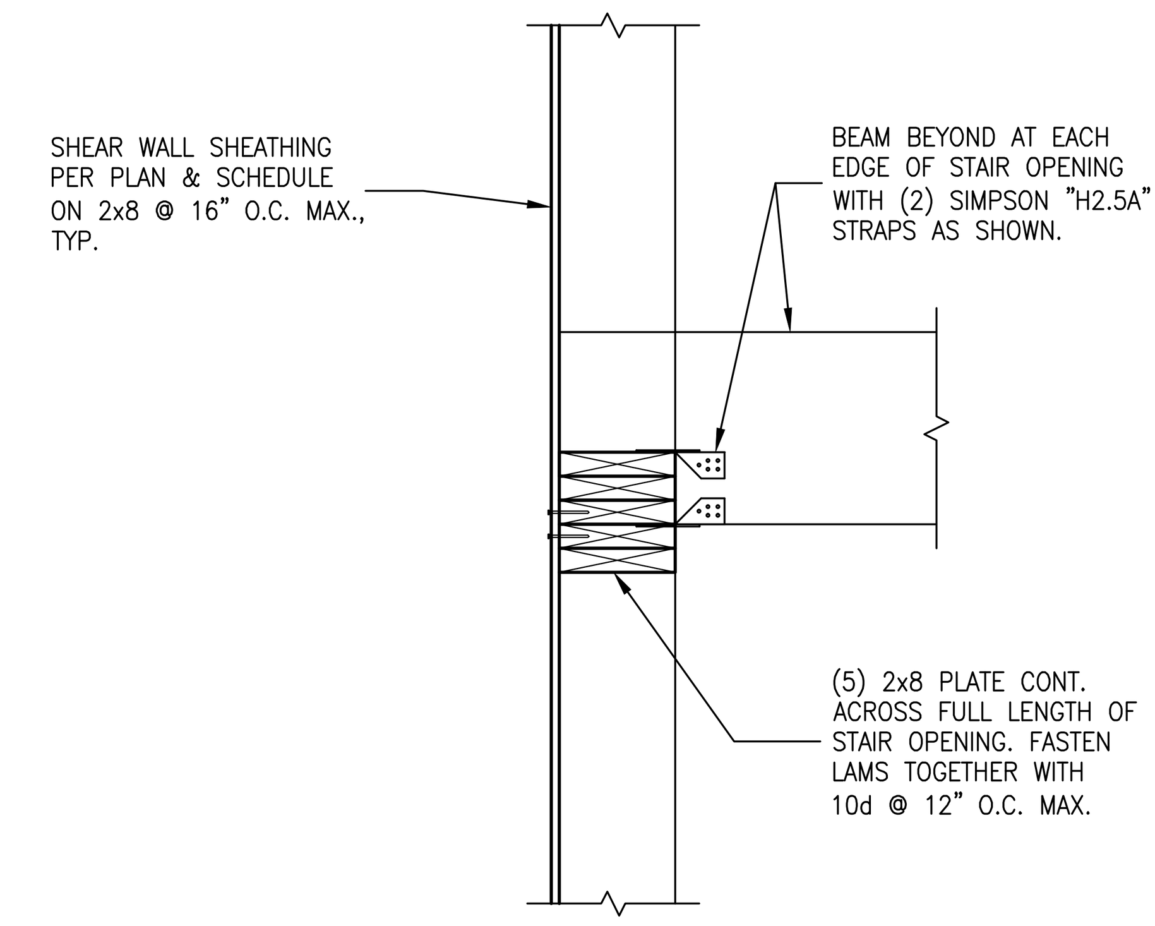

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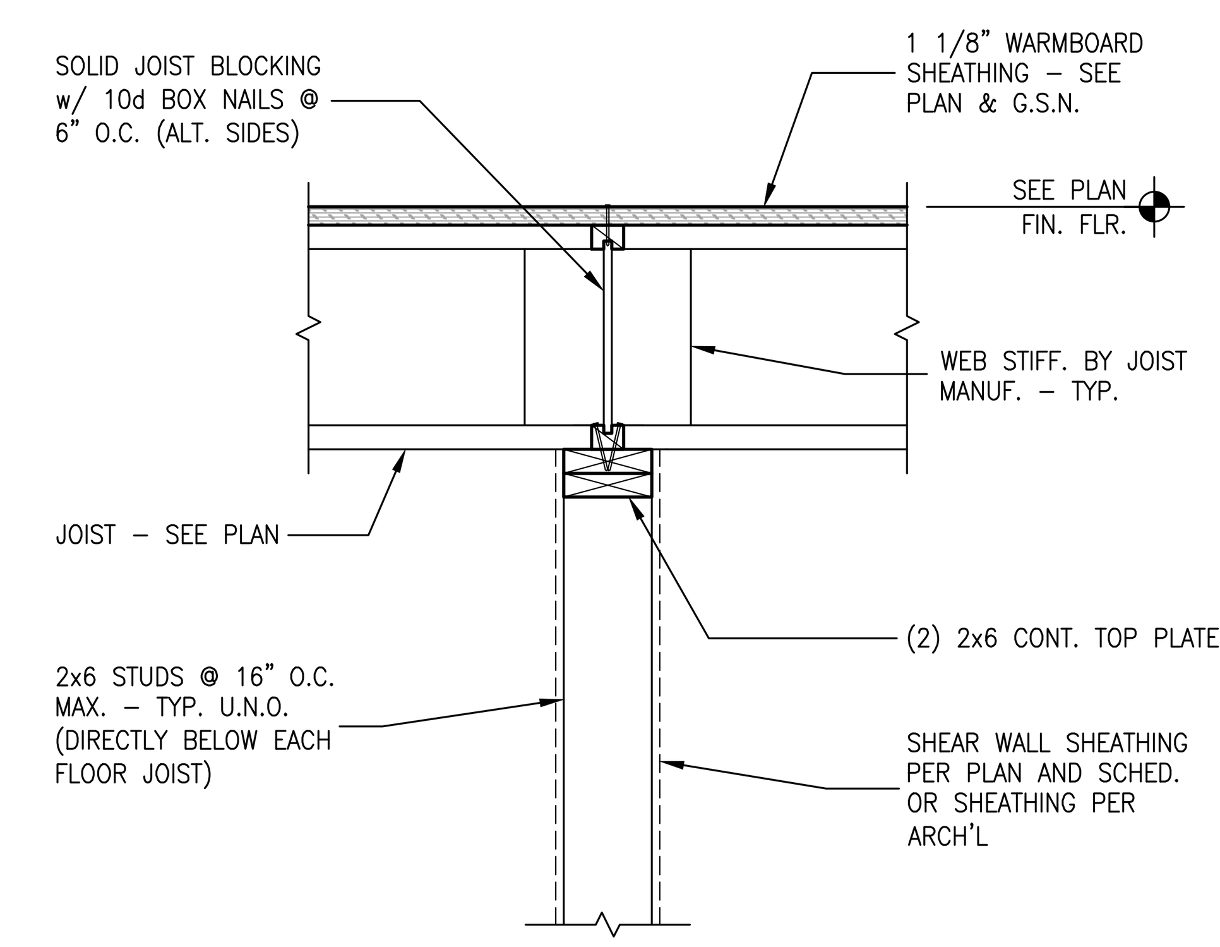

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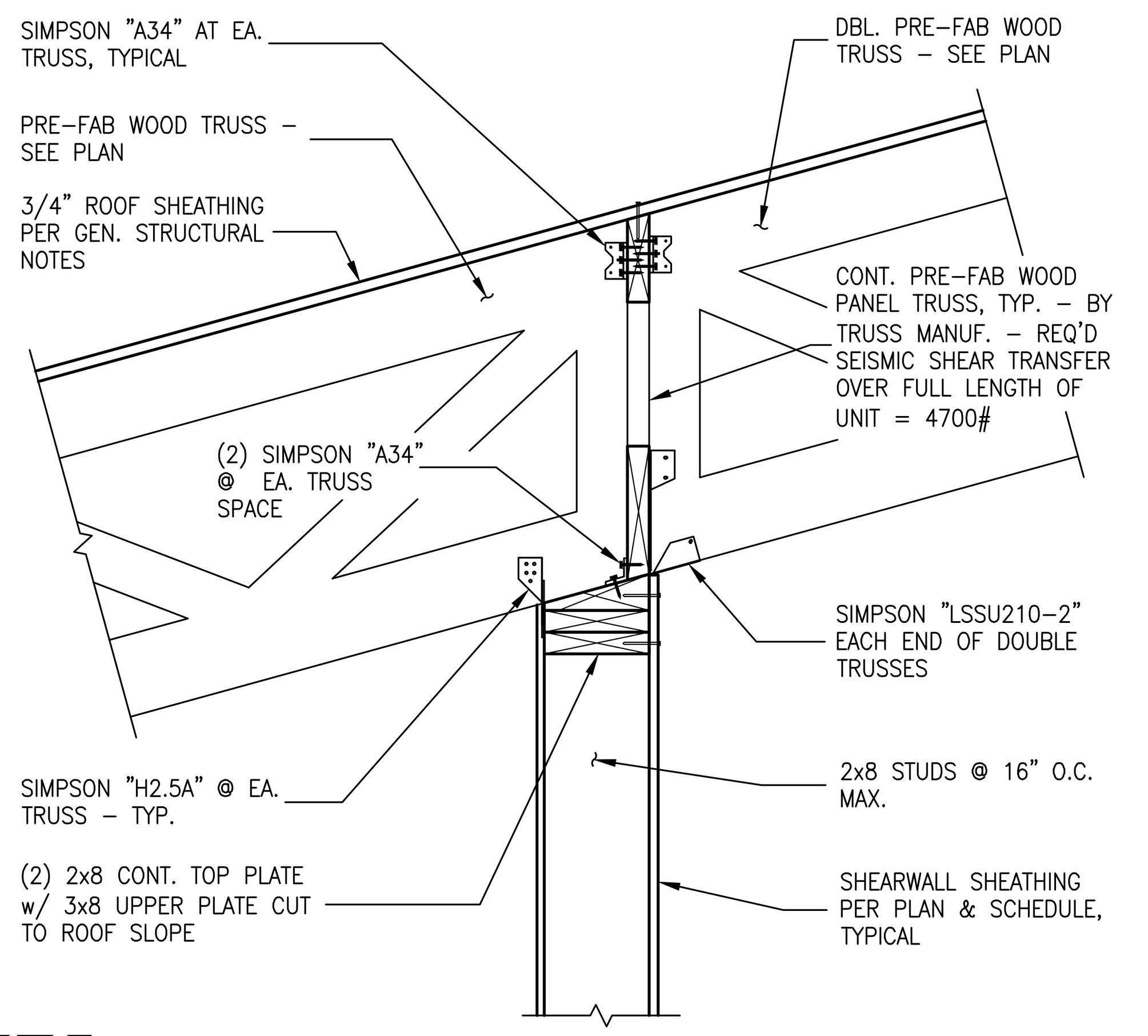

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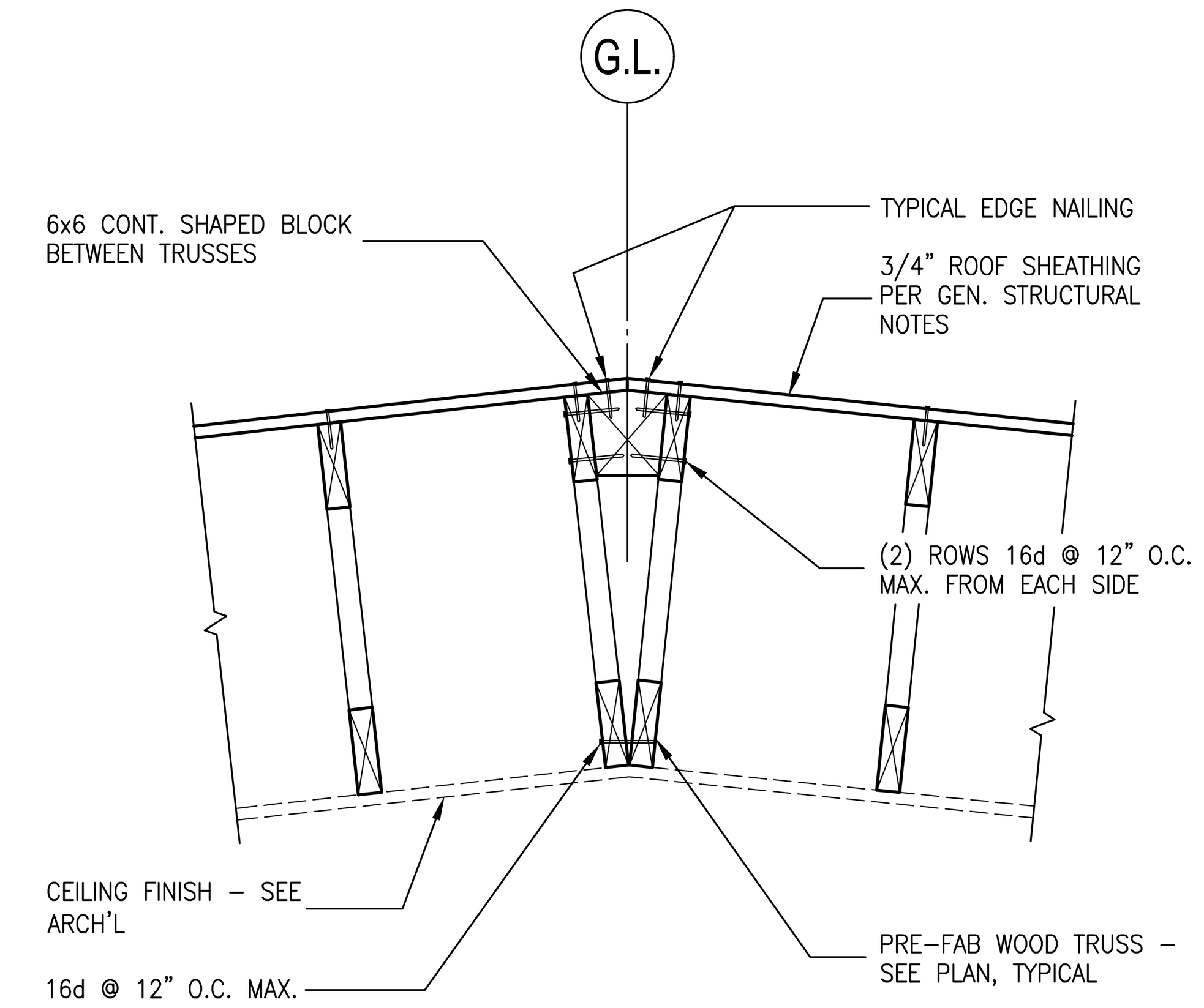

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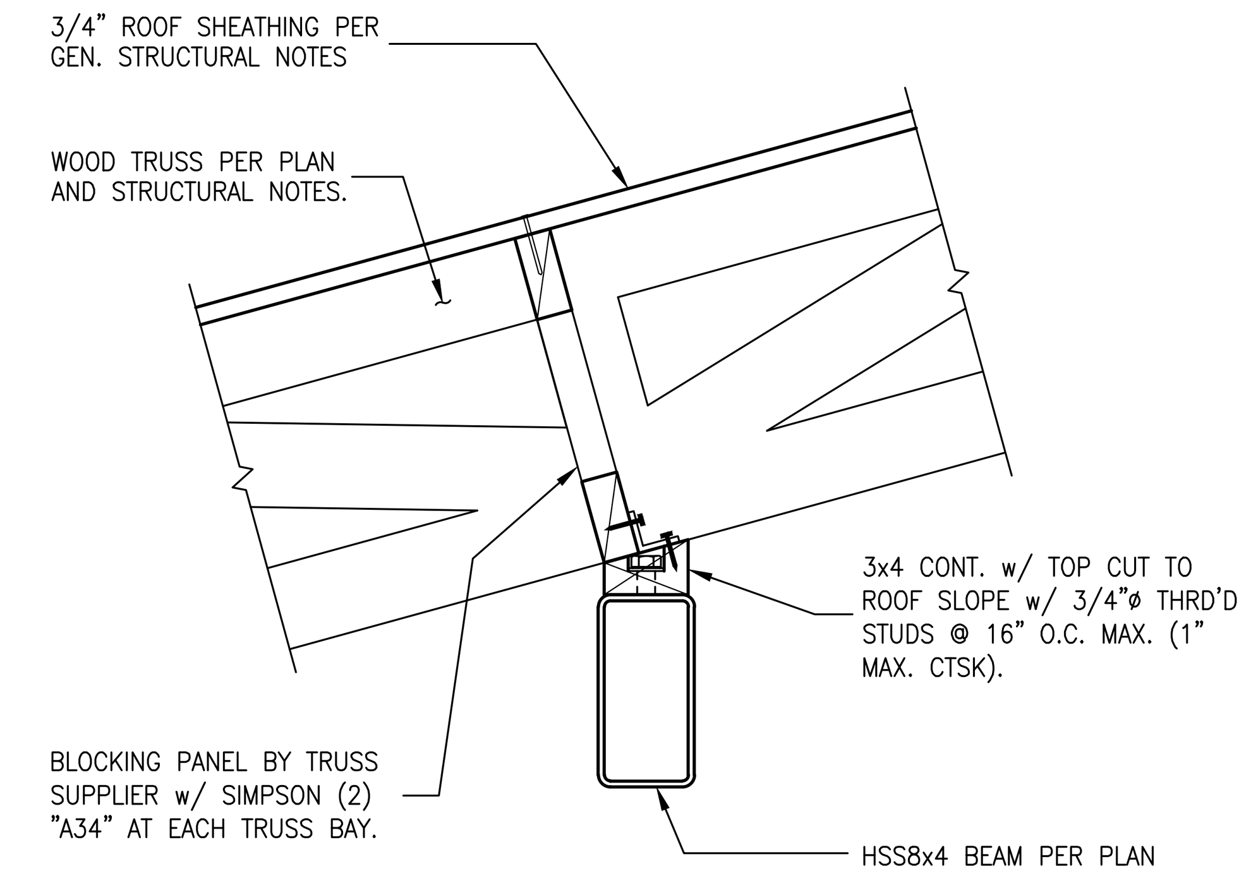
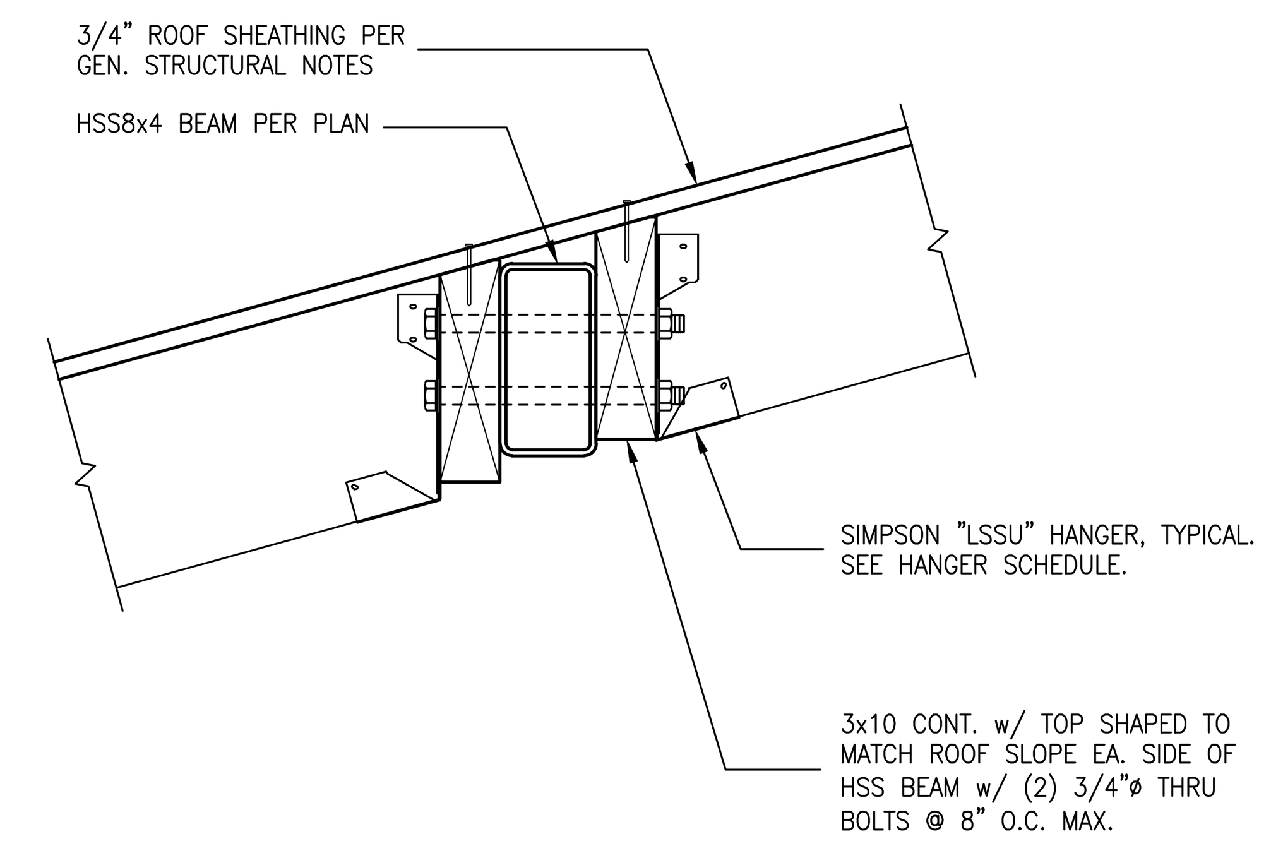
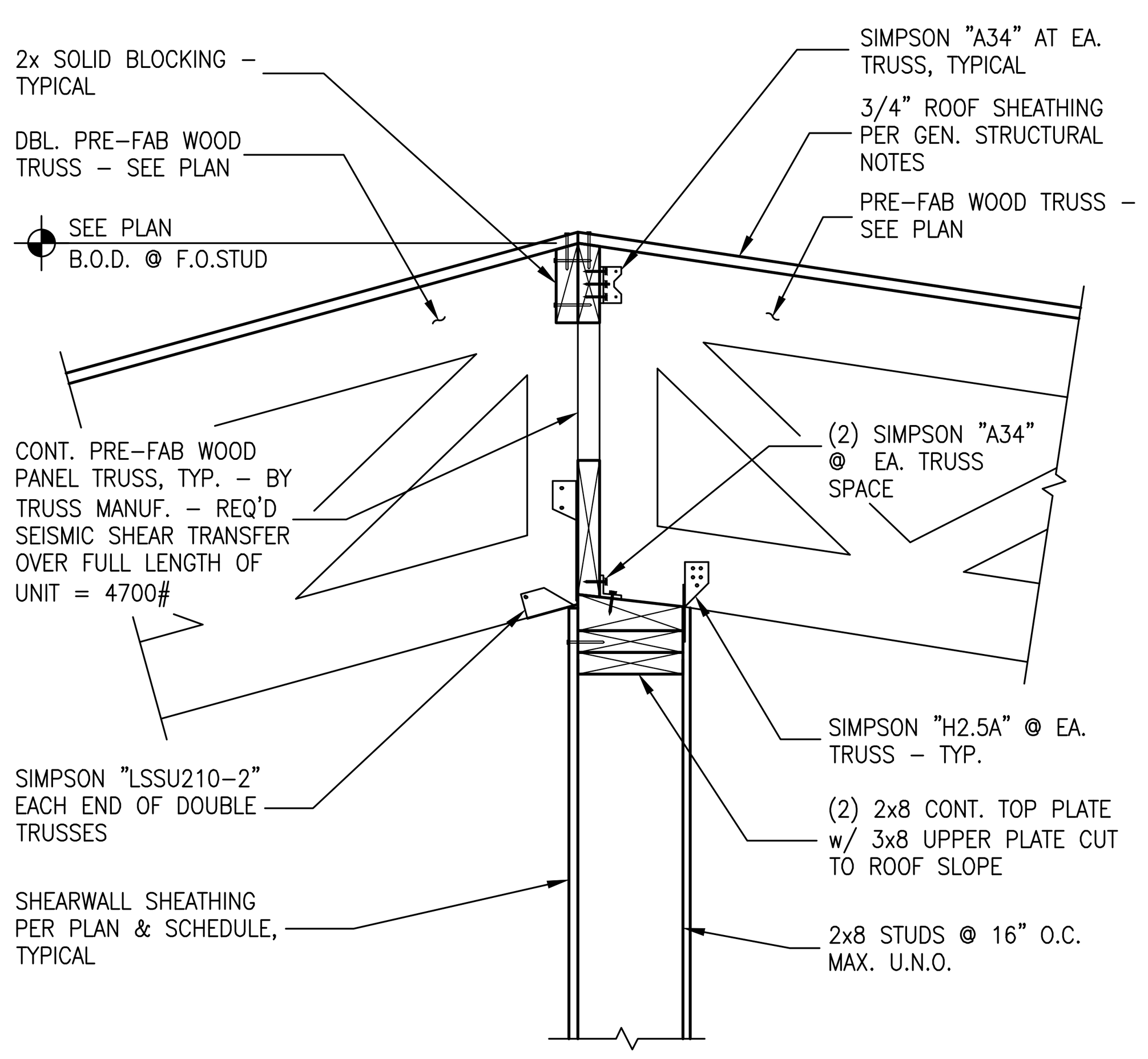


4 EYEBROW BEAM AT BACKSPAN



1 TYPICAL SECTION AT EYEBROW BEAM



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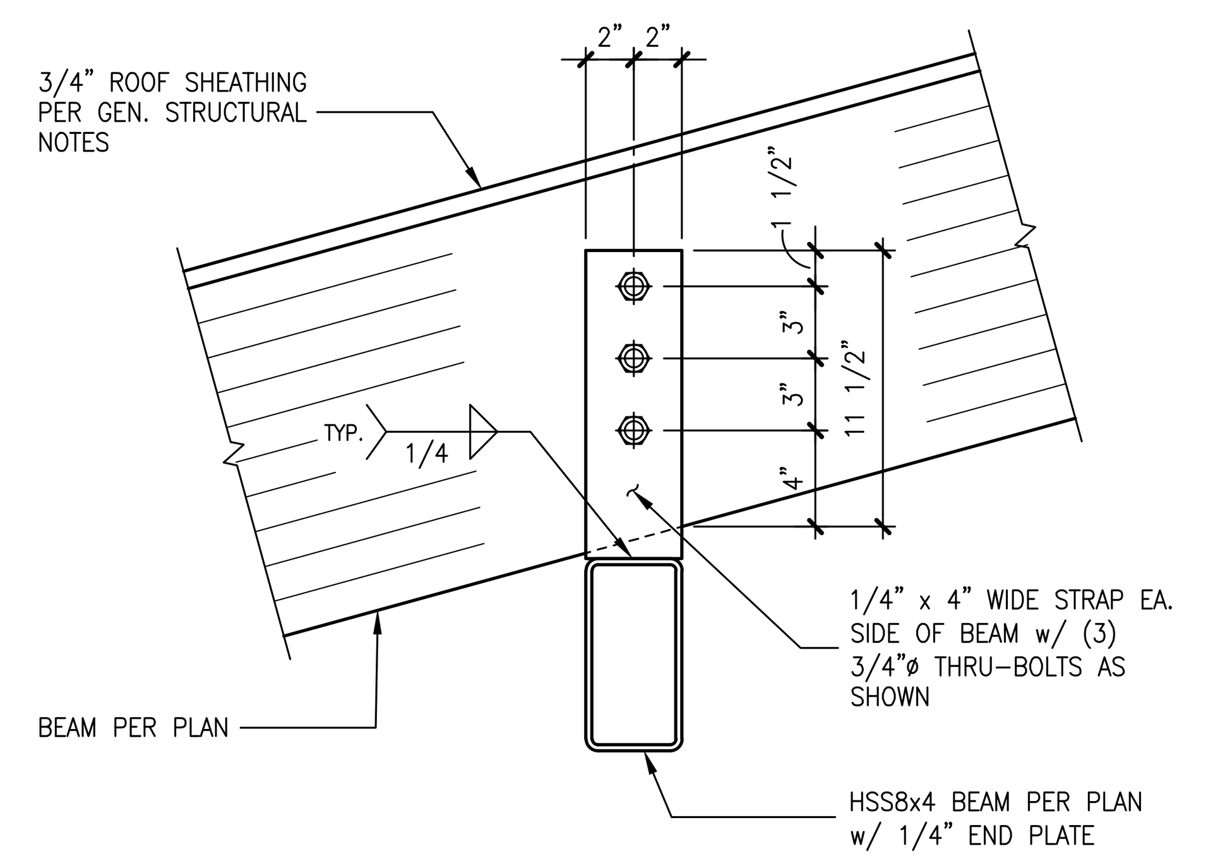
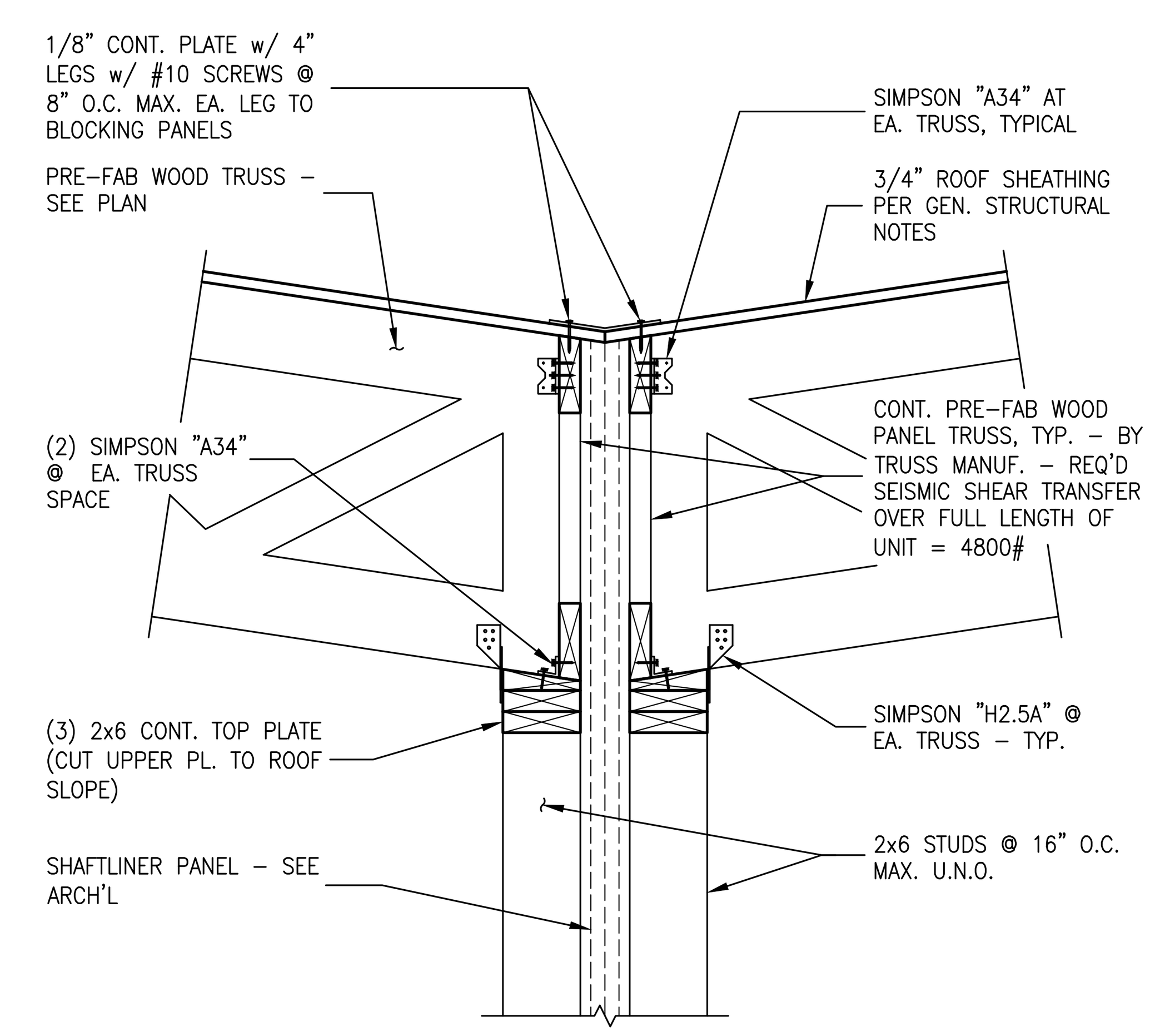


8 EYEBROW BEAM AT BACKSPAN BEAM CONN.



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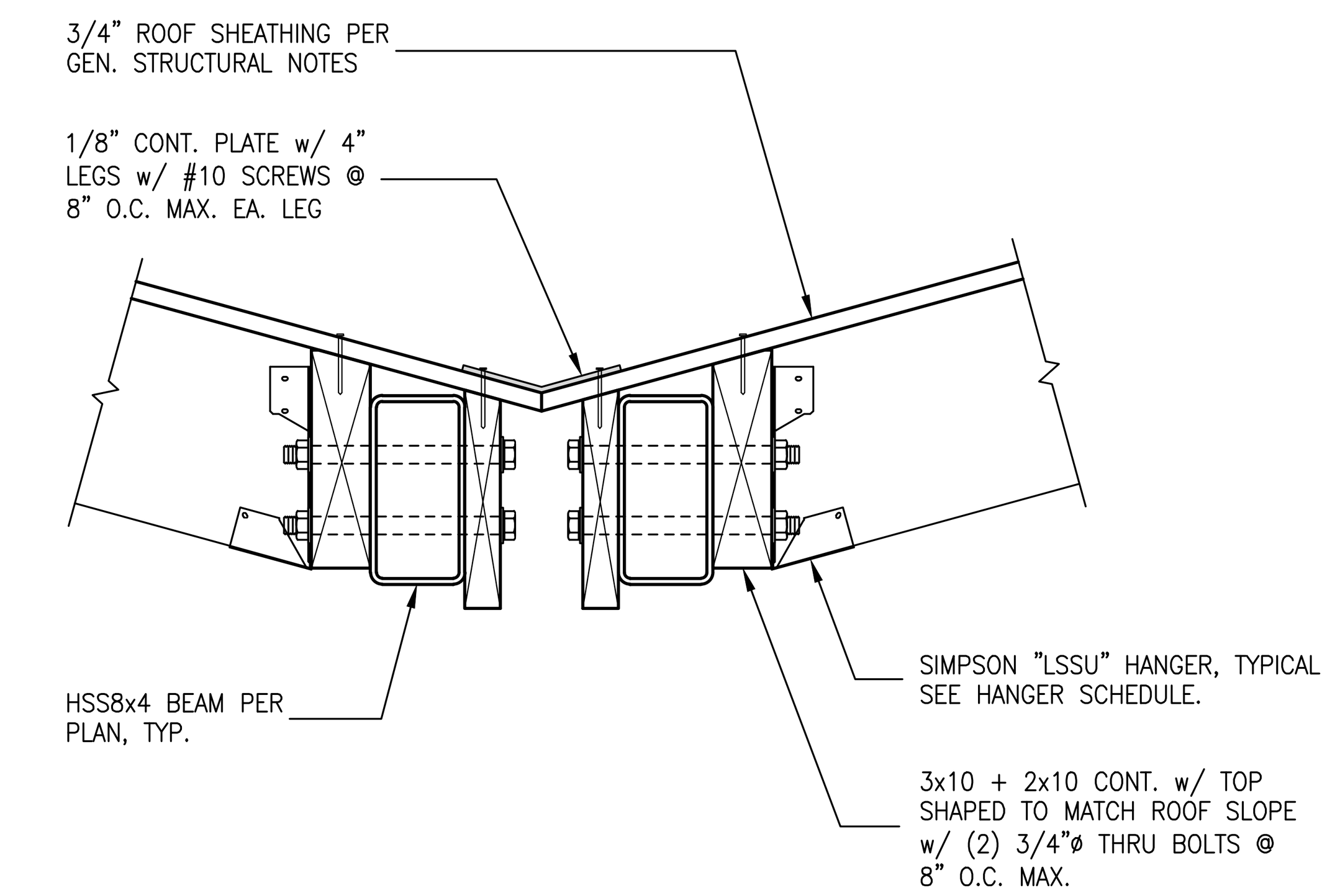
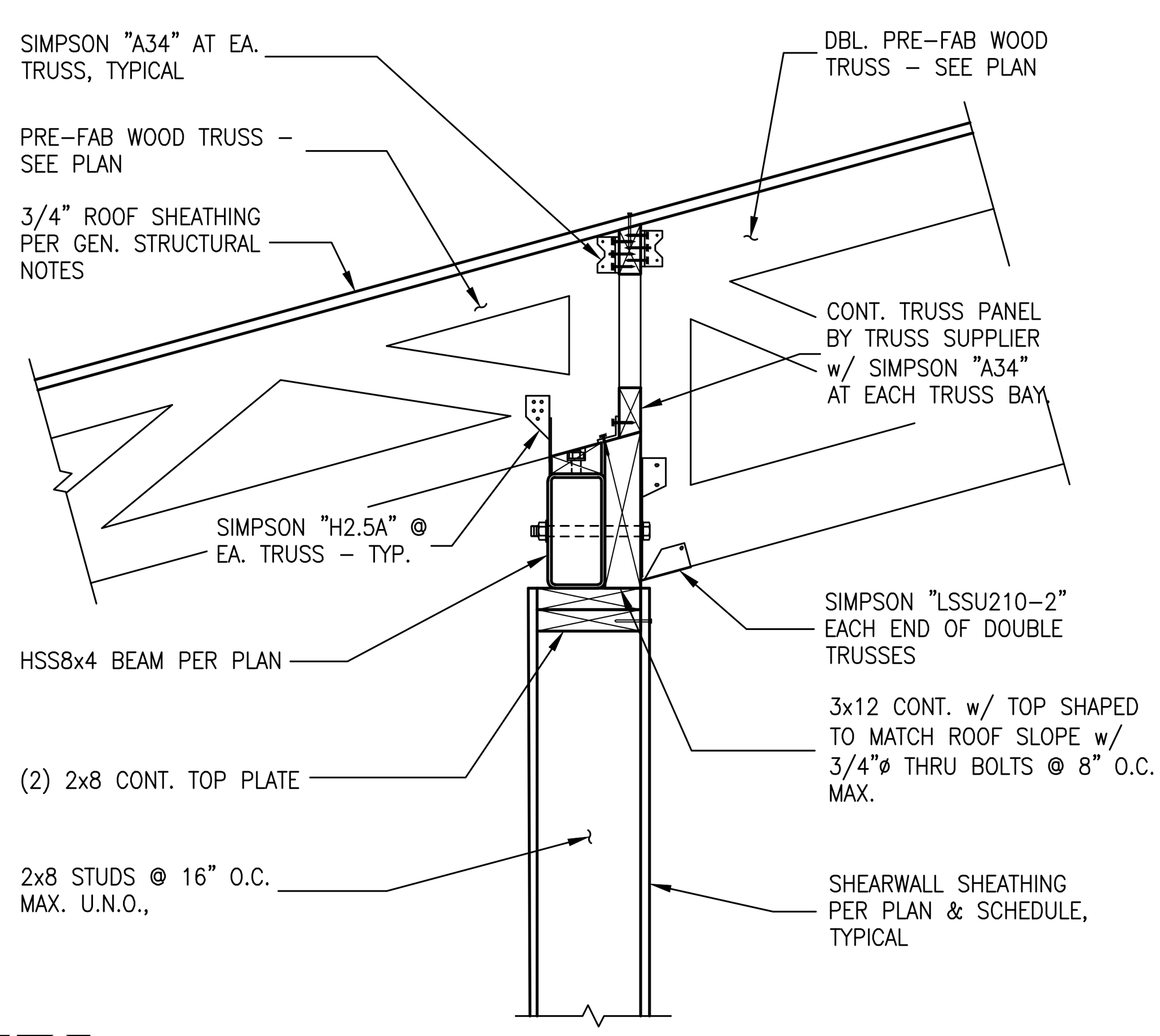


2 EYEBROW BEAMS AT DEMISING WALL



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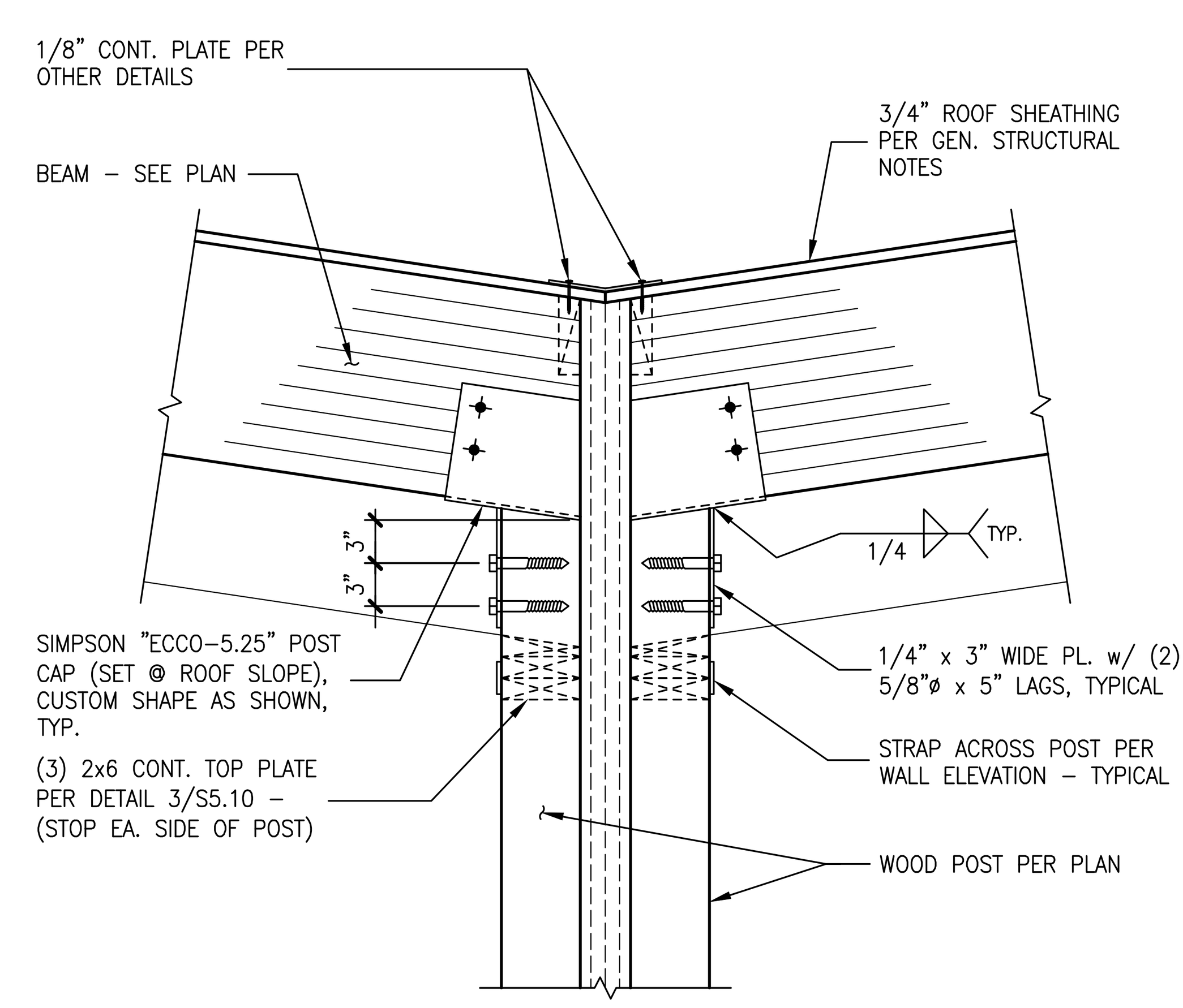

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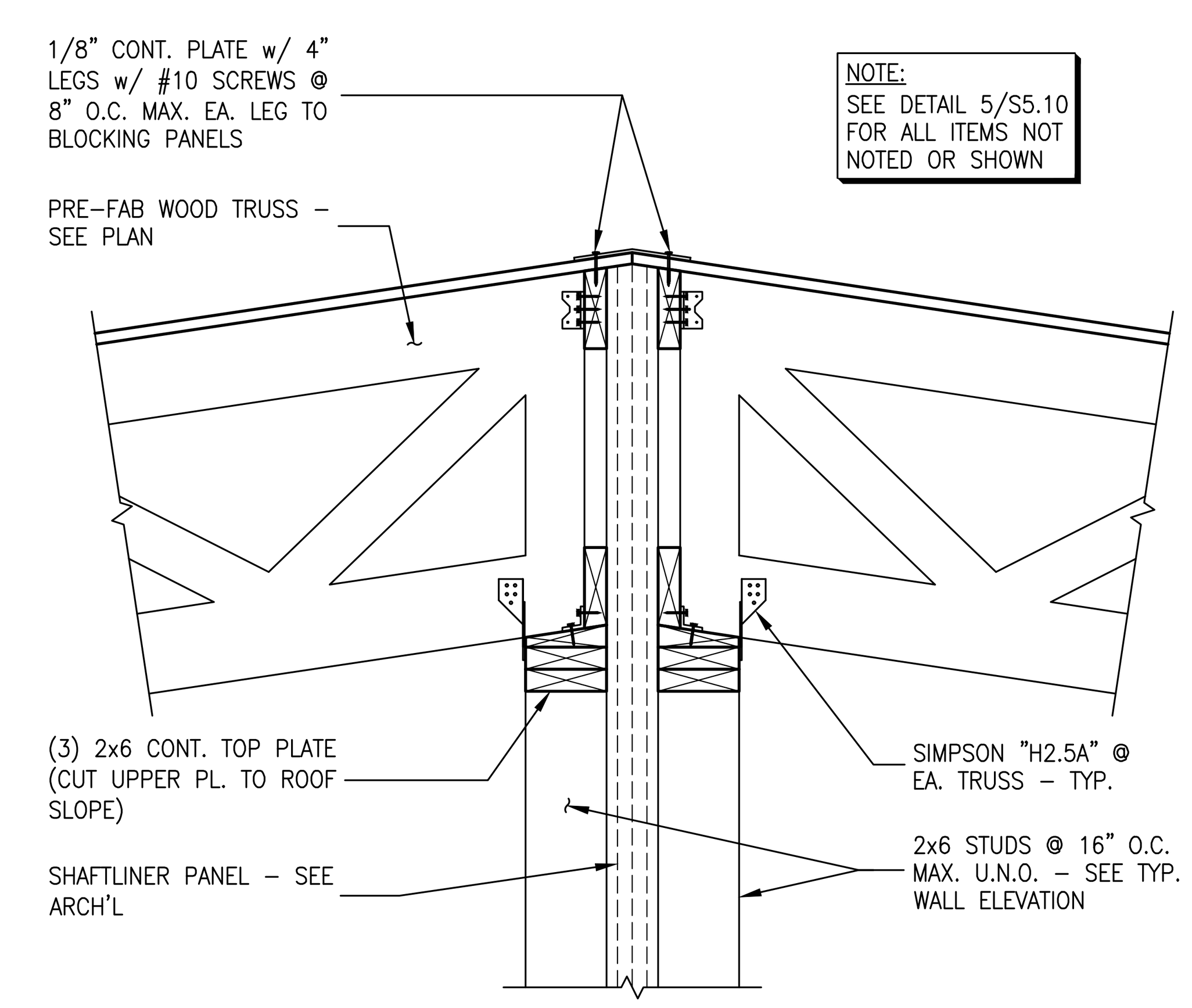

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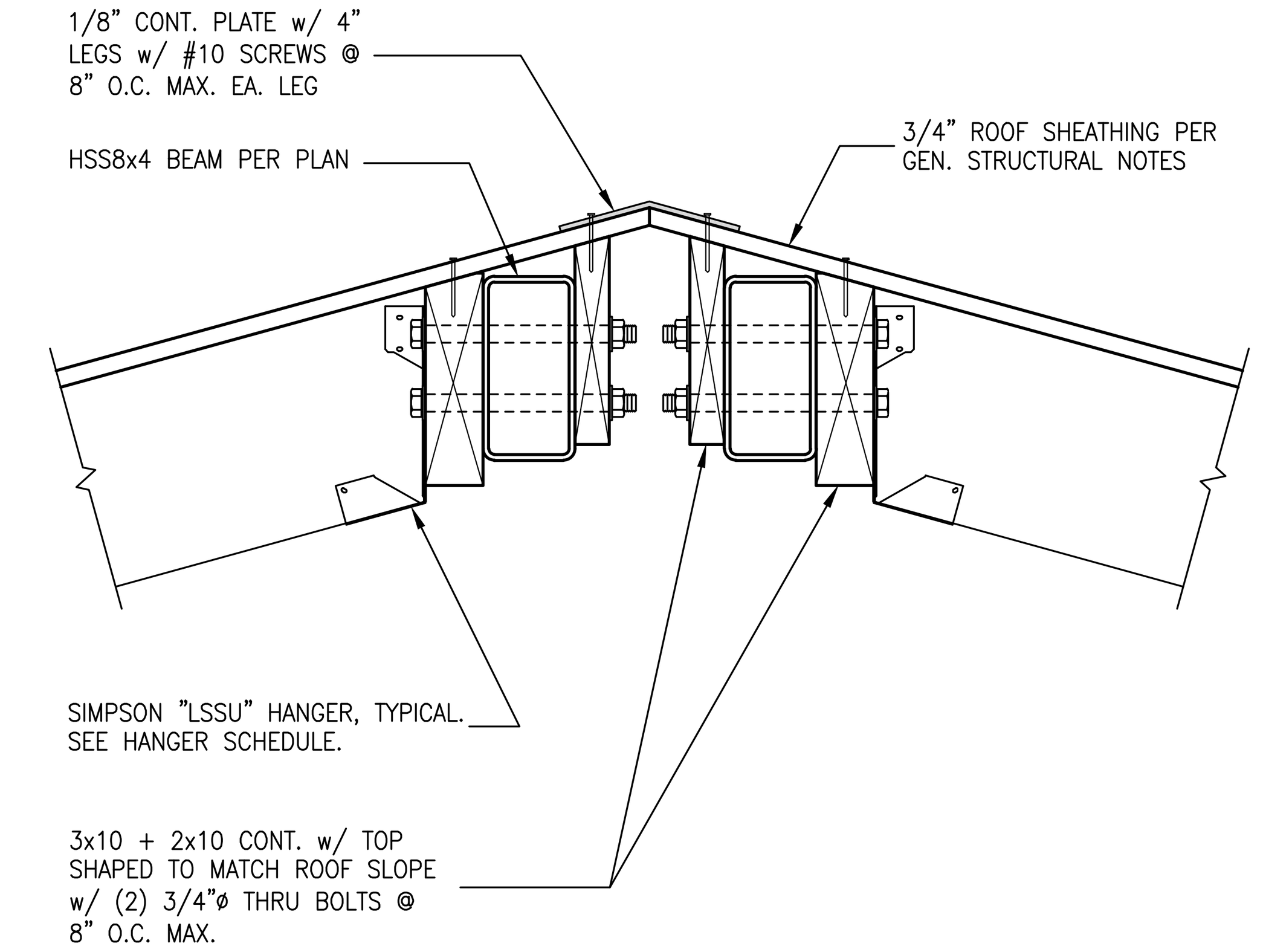

3 EYEBROW BEAMS AT DEMISING WALL

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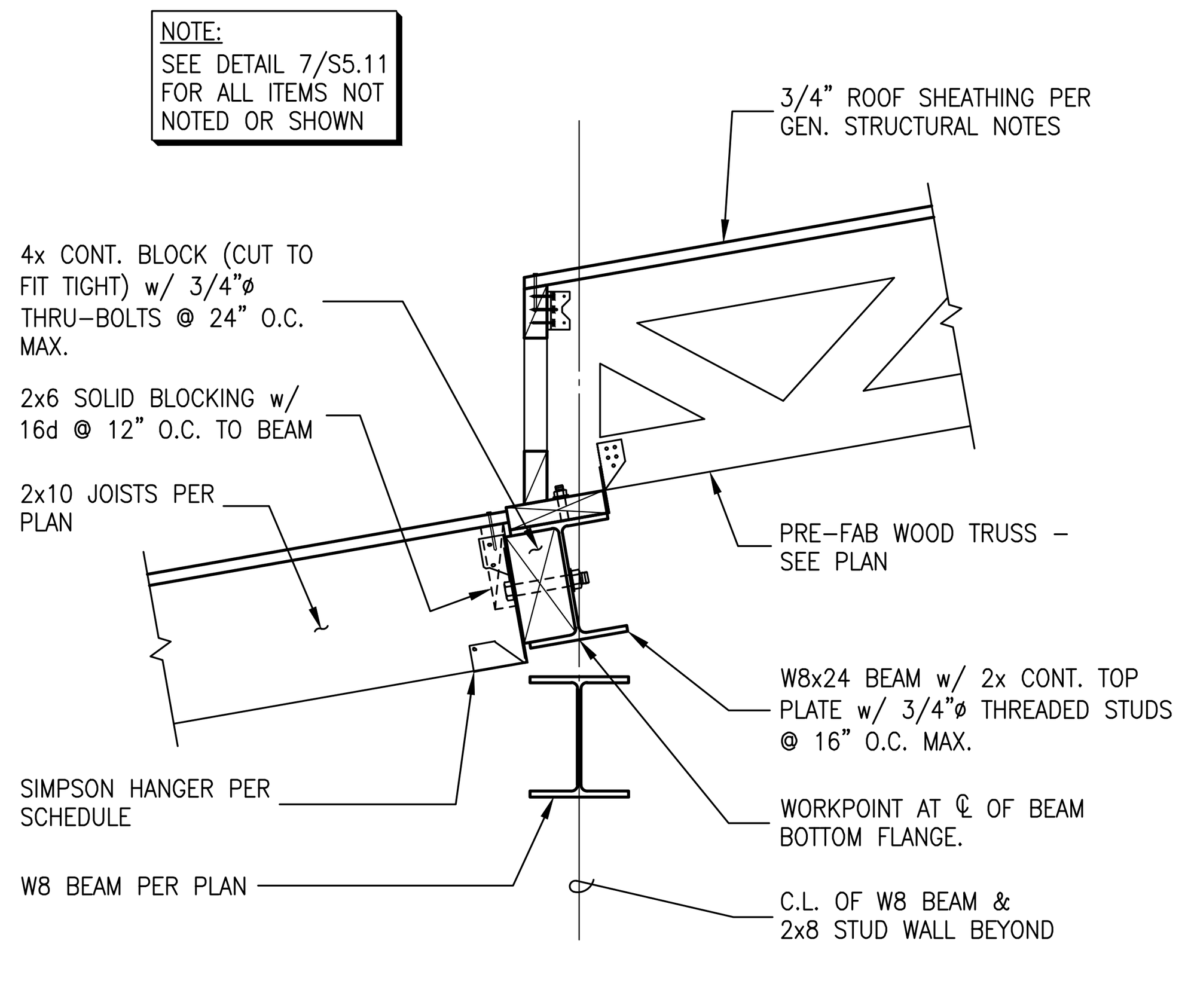

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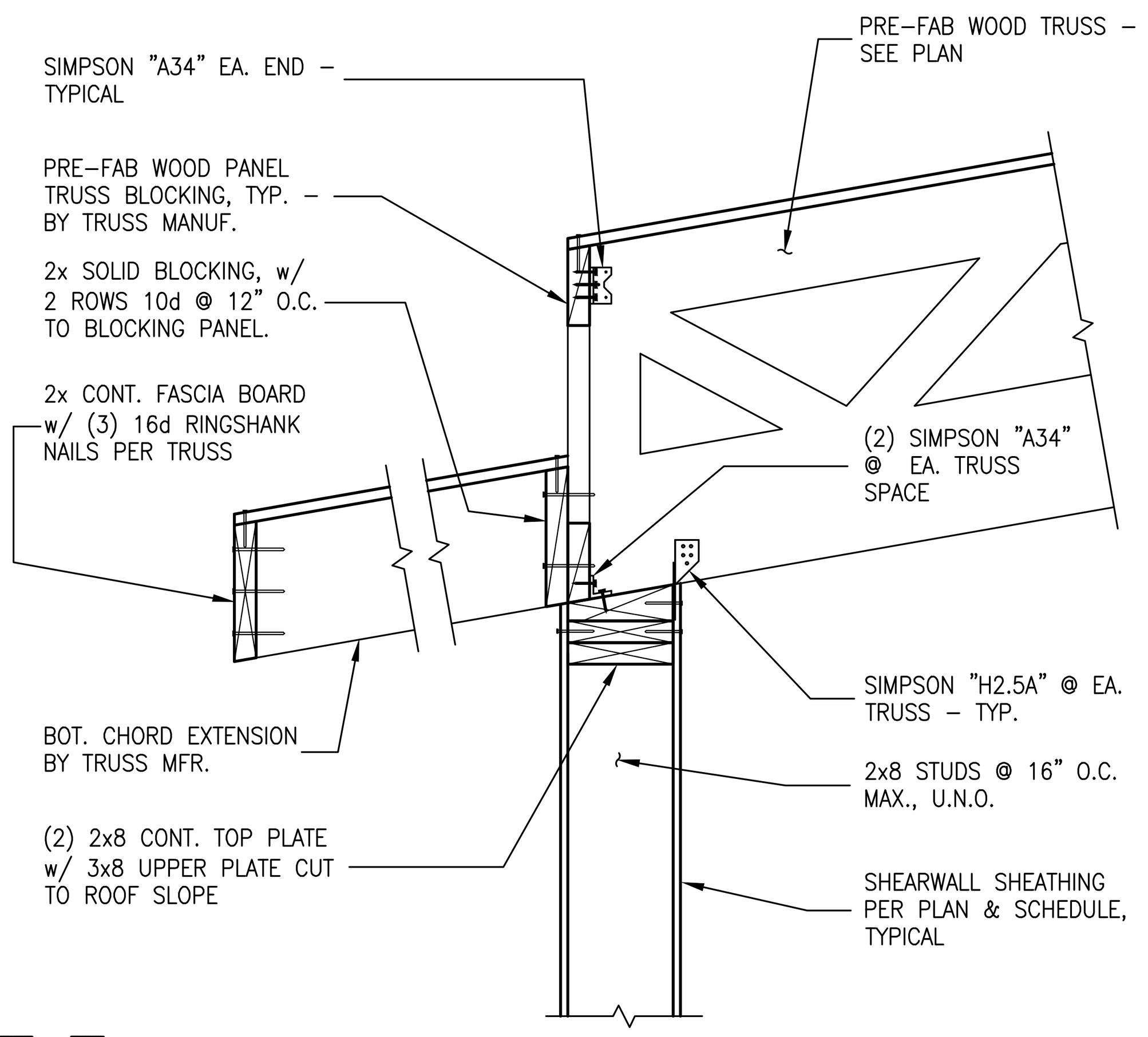

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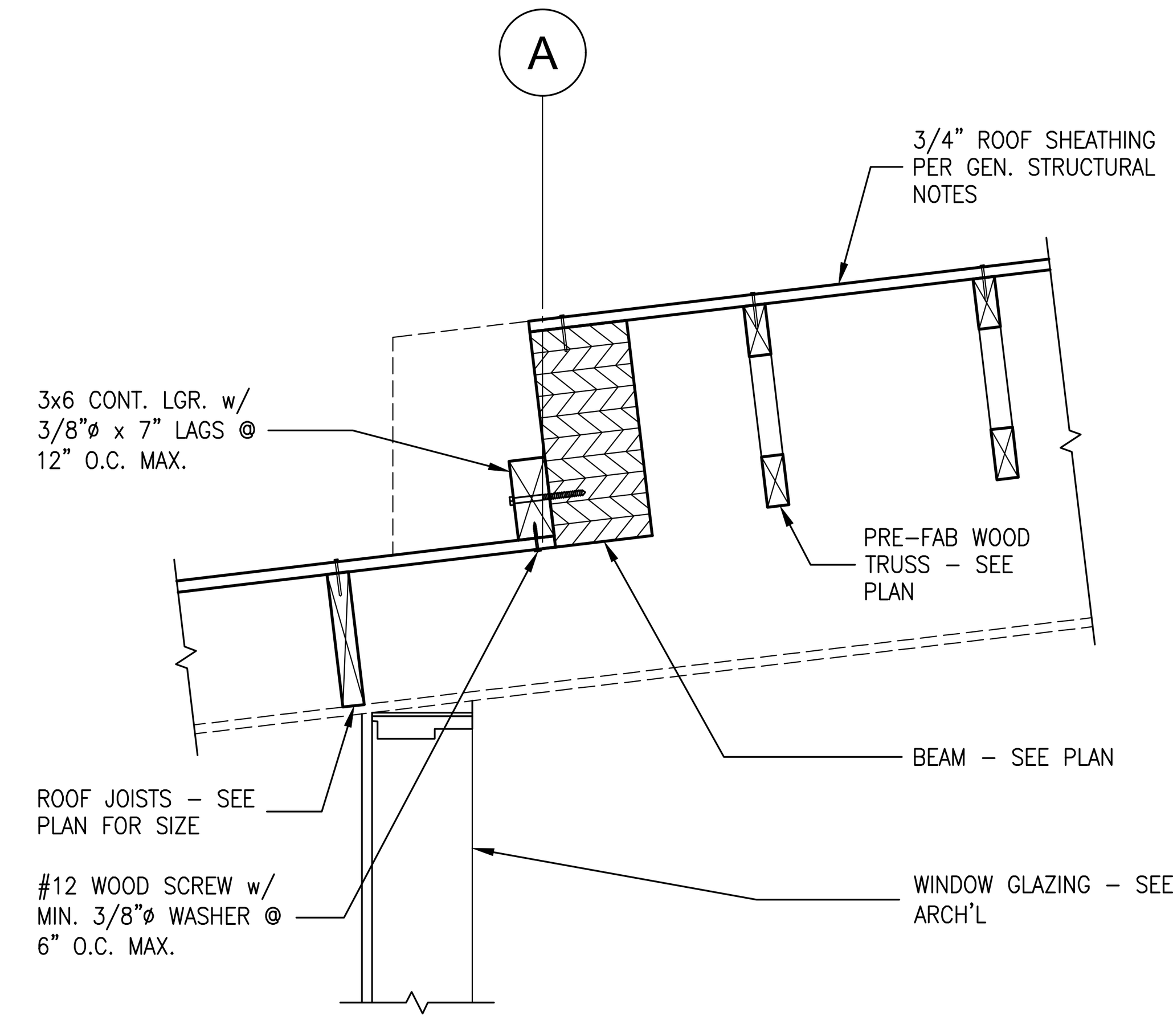

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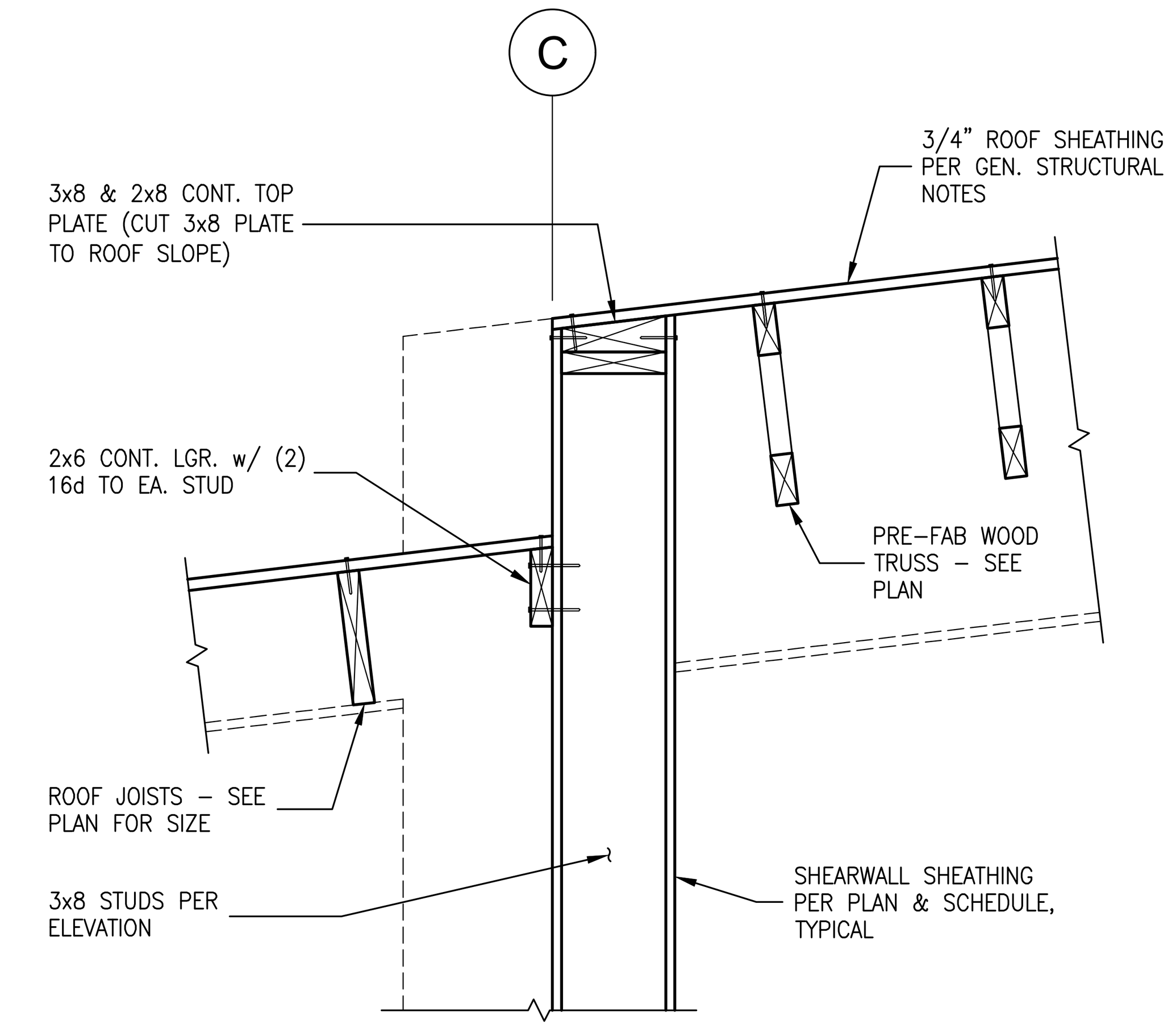

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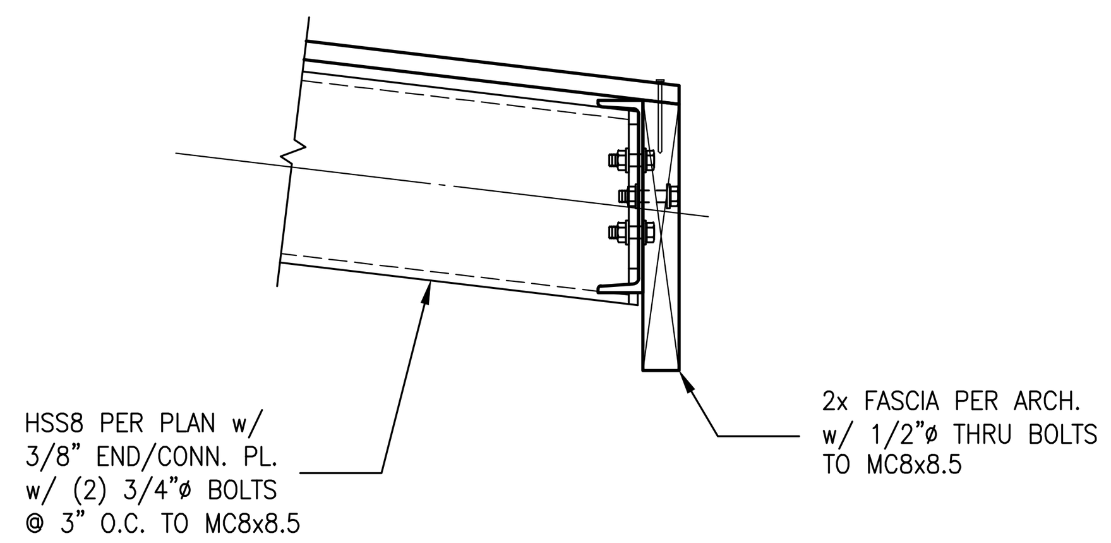

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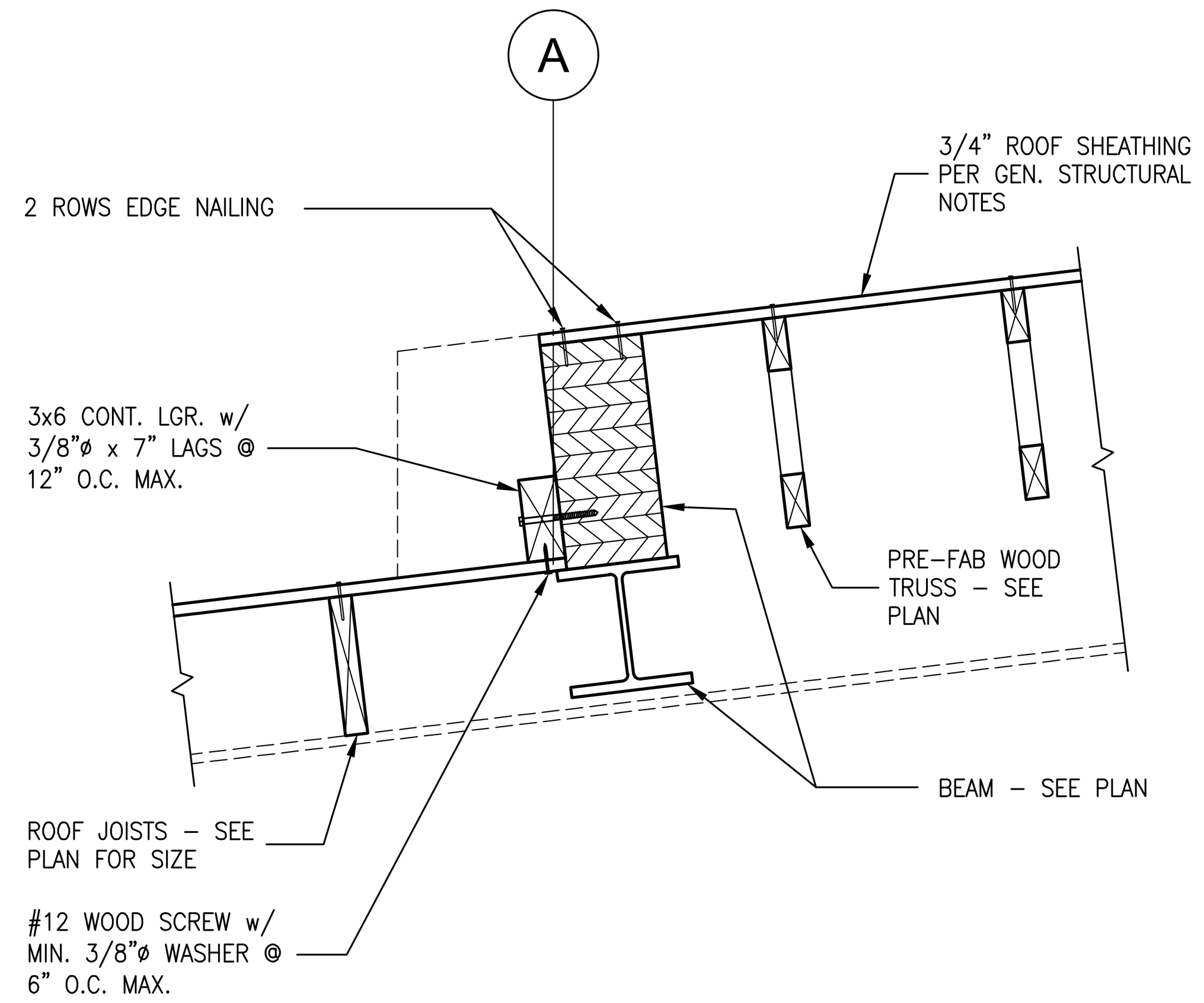

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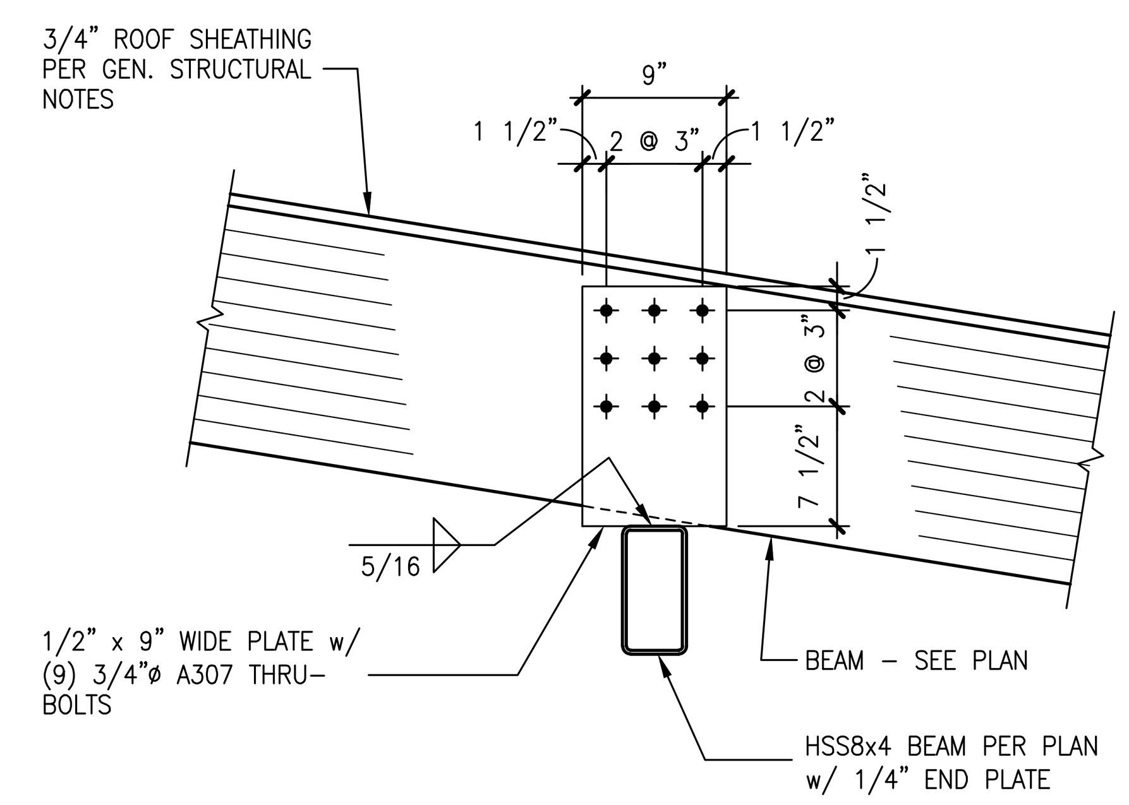

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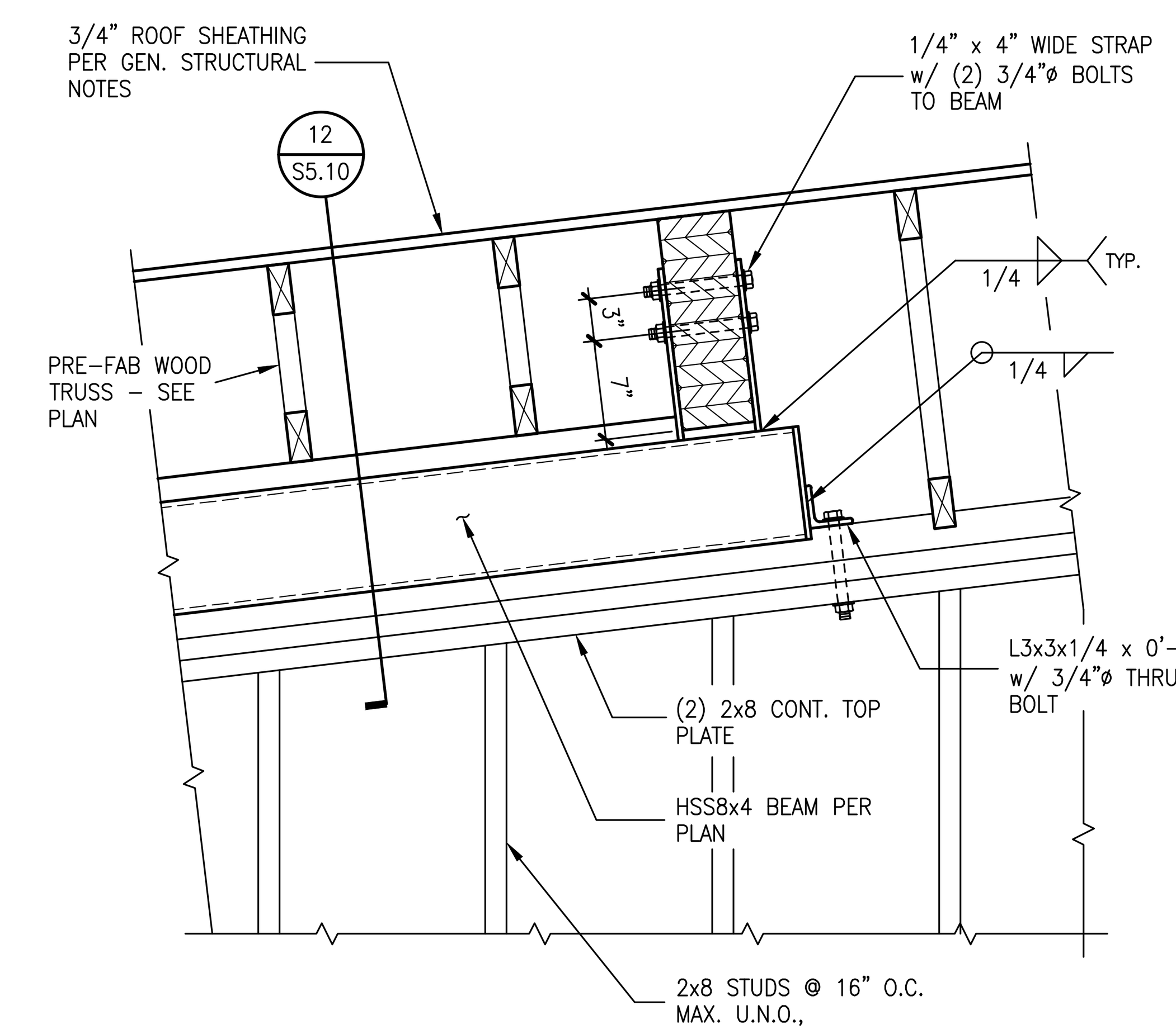

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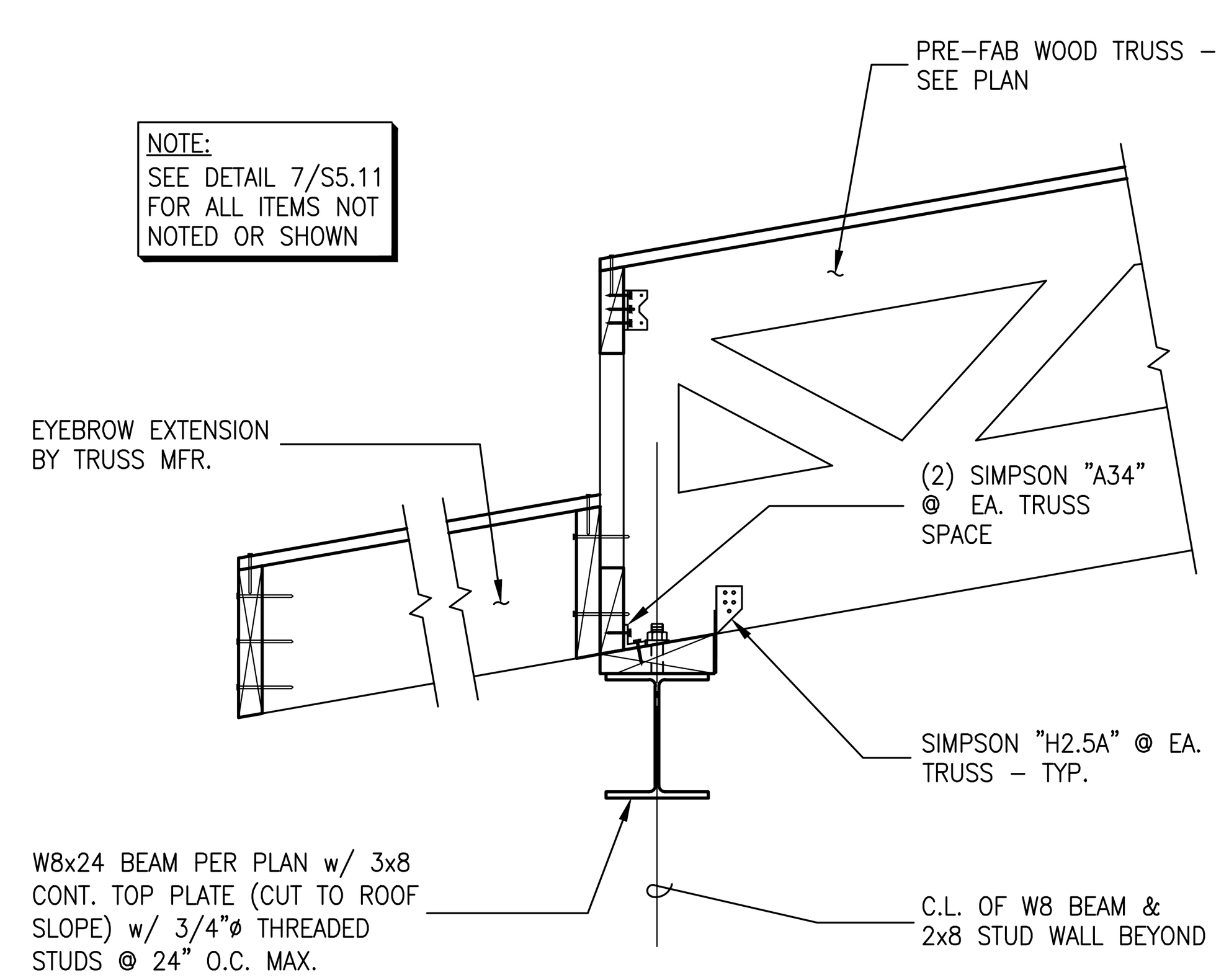

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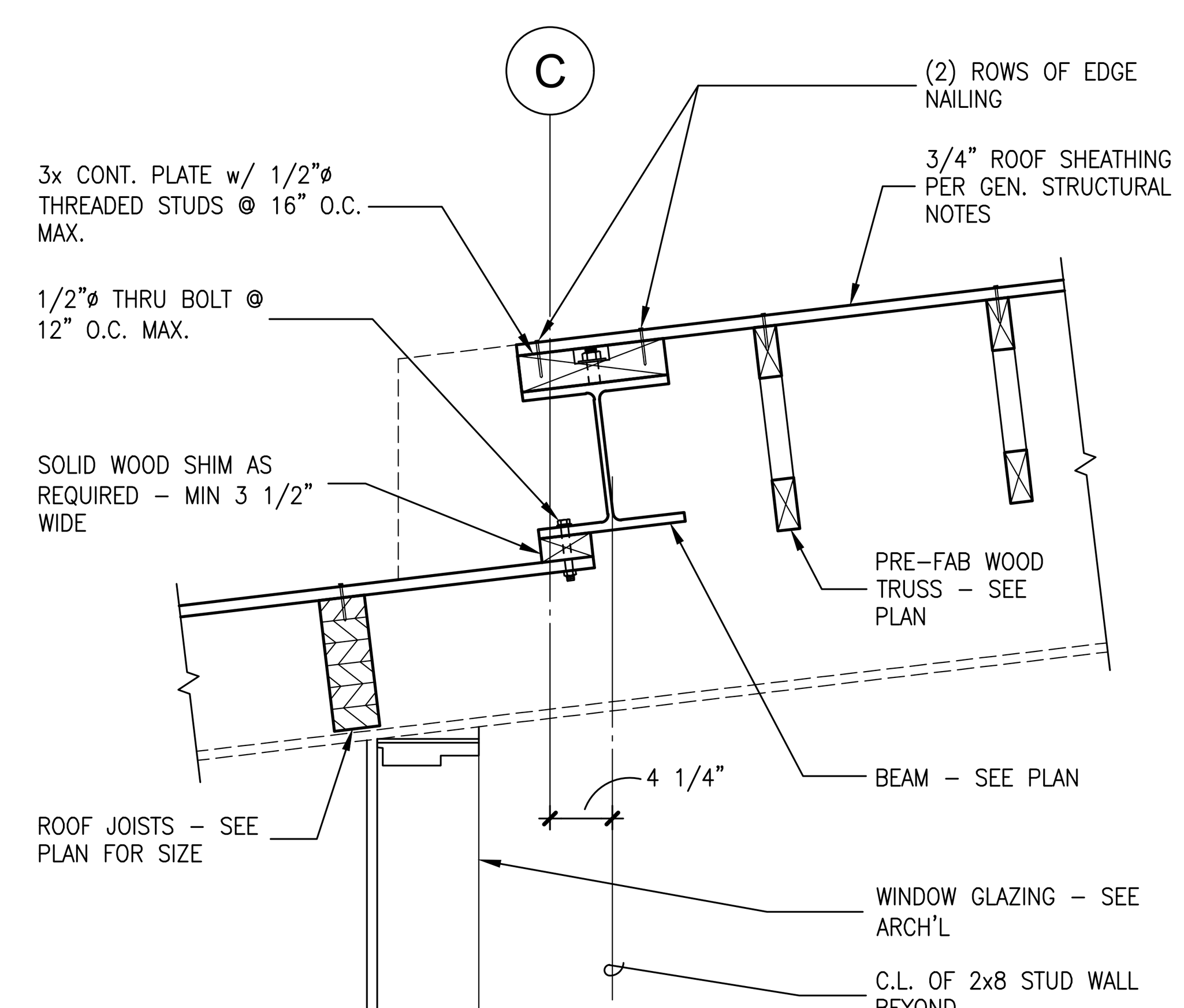

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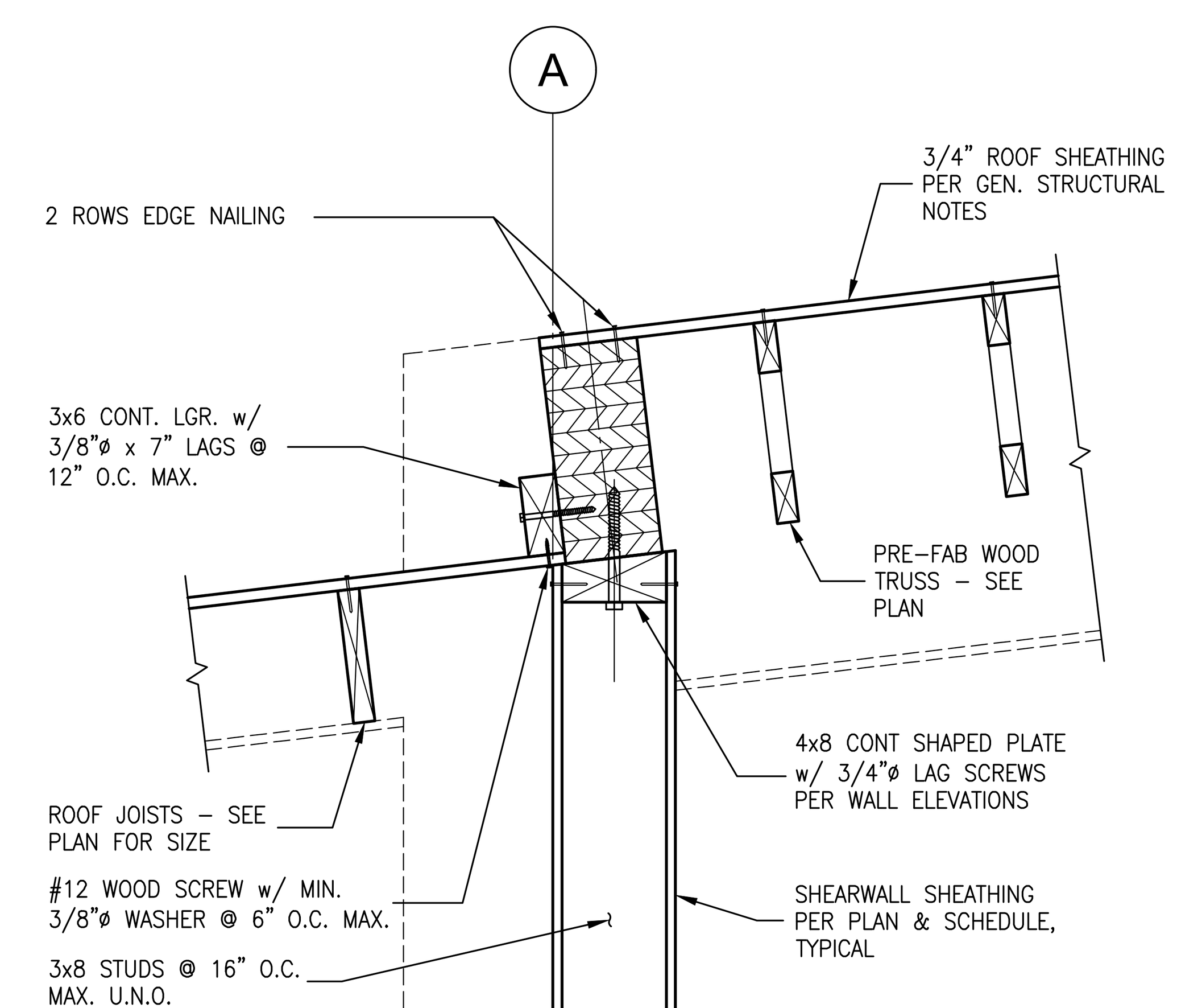

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RADIANT TUBING SCHEDULE

UNIT	AREA	LEVEL	MANIFOLD #	LOOP #	FLOOR TYPE	ATTACHMENT	TUBE TYPE	TUBE SIZE IN	TUBE SPACING IN
TYPICAL	BUNK	LOWER	1	1	4" CONCRETE FLOOR	IN CONCRETE SLAB	HEPEX	1/2	12
TYPICAL	BEDROOM 2	LOWER	1	2	4" CONCRETE FLOOR	IN CONCRETE SLAB	HEPEX	1/2	12
TYPICAL	HALL	ENTRY	2	1	WARMBOARD	WARMBOARD PANEL	HEPEX	1/2	12
TYPICAL	BEDROOM 1	ENTRY	2	2	WARMBOARD	WARMBOARD PANEL	HEPEX	1/2	12
TYPICAL	BATHROOM	ENTRY	2	3	WARMBOARD	WARMBOARD PANEL	HEPEX	1/2	12
TYPICAL	LIVING ROOM/KITCHEN	UPPER	2	4	WARMBOARD	WARMBOARD PANEL	HEPEX	1/2	12
124	BEDROOM 3	LOWER	3	1	4" CONCRETE FLOOR	IN CONCRETE SLAB	HEPEX	1/2	12
124	BEDROOM 2	LOWER	3	2	4" CONCRETE FLOOR	IN CONCRETE SLAB	HEPEX	1/2	12
124	HALL	ENTRY	4	1	WARMBOARD	WARMBOARD PANEL	HEPEX	1/2	12
124	BATHROOM	ENTRY	4	2	WARMBOARD	WARMBOARD PANEL	HEPEX	1/2	12
124	BEDROOM 1	ENTRY	4	3	WARMBOARD	WARMBOARD PANEL	HEPEX	1/2	12
124	LIVING ROOM/KITCHEN	UPPER	4	4	WARMBOARD	WARMBOARD PANEL	HEPEX	1/2	12
133	BEDROOM 3	LOWER	5	1	4" CONCRETE FLOOR	IN CONCRETE SLAB	HEPEX	1/2	12
133	BEDROOM 2	LOWER	5	2	4" CONCRETE FLOOR	IN CONCRETE SLAB	HEPEX	1/2	12
133	BEDROOM 1	ENTRY	6	3	WARMBOARD	WARMBOARD PANEL	HEPEX	1/2	12
133	LIVING ROOM/KITCHEN	UPPER	6	4	WARMBOARD	WARMBOARD PANEL	HEPEX	1/2	12
133	HALL	ENTRY	6	1	WARMBOARD	WARMBOARD PANEL	HEPEX	1/2	12
133	BATHROOM	ENTRY	6	2	WARMBOARD	WARMBOARD PANEL	HEPEX	1/2	12

EXPANSION TANK SCHEDULE

MARK	MANUF./ MODEL #	SERVICE/ LOCATION	TYPE	CAP'Y GAL.	SYSTEM	DIA. X HEIGTHT	MAX WORK'G PSIG	OPER. WT. LBS.	REMARKS
1,2,3,	ARSTRONG –	RADIANT HEAT	BLADDER	8	B–1,2,3	14X30	60	55	–
4	ARSTRONG –	SNOW MELT	BLADDER	8	B–4	14X30	60	55	–

DRYER VENT LENGTH LIMITATIONS

DRYER TYPE	NUMBER OF 90° TURNS (10" RADIUS ELBOWS)	TOTAL DEVELOPED LENGTH OF 4" DIA. RIGID DUCT	UNIT TYPE
SEE ARCHITECTURAL DRAWINGS FOR ACTUAL MANUFACTURER AND MODEL	2	32 FT.	TYPICAL UNIT
	1	33.5 FT.	LOT 124
	3	30.5 FT.	LOT 133

DRYER VENTING REQUIREMENTS

1. Dryer exhaust ducts for clothes dryers shall terminate on the outside of the building and shall be equipped with a backdraft damper.
2. Screens shall not be installed at the duct termination.
3. Exhaust ducts shall have a smooth interior finish and shall be constructed of metal a minimum 0.016 inch (0.4 mm) thick. The exhaust duct size shall be 4 inches (102 mm) nominal in diameter.
4. Ducts shall not be joined with screws or similar fasteners that protrude into the inside of the duct.
5. Provide a recessed dryer hookup venting box as manufactured by "EZ–Flow", or equal. Align dryer vent box with discharge vent location of installed dryer. Coordinate location prior to installation.
6. Provide 10" radius smooth 45–degree or 90–degree elbows for all dryer exhaust duct fittings.
7. The equivalent length of the exhaust duct shall be identified on a permanent label or tag. The label or tag shall be located on the wall of each laundry area within 6 feet (1829 mm) of the exhaust duct connection and shall read as follows:

WARNING DO NOT REMOVE
To avoid the risk of fire caused by lint build–up in the exhaust duct, all domestic dryers installed at this location shall be manufacturer approved (UL Listed) for connection to an exhaust duct that is ____feet or greater with _____elbows.

1 DRYER VENT DUCT LENGTH NTS

HOT WATER BOILER SCHEDULE (ELECTRIC)

MARK	MANUF./ MODEL #	TYPE	GPM (PSIG)	EWT (F)	LWT (F)	CAP MBH	KW	NO. STAGES	VOLT ø	REMARKS
B–1	ELECTRO IND. EB–MX–10	IN FLOOR	4 .01	120	140	31.0	10	SCR	240/1	–
B–2	ELECTRO IND. EB–MX–15	IN FLOOR	5 .01	120	140	51.0	15	SCR	240/1	–
B–3	ELECTRO IND. EB–MX–15	IN FLOOR	5 .01	120	140	51.0	15	SCR	240/1	–
B–4	ELECTRO IND. EB–MX–10	SNOW MELT	4 .01	120	140	31.0	10	SCR	240/1	50% GLYCOL/WATER SOLUTION

EXHAUST FAN SCHEDULE

MARK	MANUF./ MODEL #	TYPE	CFM	E.S.P.	WATTS	VOLT ø	B.D.D.	DRIVE	OPER. WT.	REMARKS
EF–1	GREENHECK SP–A	CEILING	50	.25	20	120/1	YES	DIRECT	15	INTERLOCK WITH MAU–1
EF–RA	TJERNLUND RMS–160	IN LINE	160	2	20	120/1	YES	DIRECT	15	SEE NOTE ON M0.1 FOR TESTING

ELECTRIC MAKE UP AIR UNIT SCHEDULE

MARK	MANUF./ MODEL #	CFM	ESP	MOTOR		ELECTRIC HEATING			ENT	LV	REMARKS
				HP	VOLT/ø	KW	STEPS	VOLT/ø	AIR	AIR	
1	MARKEL MFH–3	150	.25	FRAC	240/1	5	SCR	240/1	–20	70	VARIABLE SPEED INTERLOCK WITH TOILET EF–1'S

GRILLE, REGISTER & DIFFUSER SCHEDULE

MARK	MANUF./ MODEL #	DESCRIPTION	FRAME	STYLE	FINISH	MATERIAL	DAMPER	MAX. NC	REMARKS
SL–1	SEIHO TT–6	SOFFIT	SURF	–	PAINTABLE	ALUM	BDD	–	–
CD–1	SEIHO TT–6	CEILING DIFFUSER	SURF	–	PAINTABLE	ALUM	–	–	–
WC–1	SEIHO TT–6	WATER CAP	SURF	–	PAINTABLE	ALUM	BDD	–	–

PUMP SCHEDULE

MARK	MANUF./ MODEL #	SERVICE	GPM	HEAD	RPM	WATTS	VOLT/ø	OPER. WT.	REMARKS
1	ARMSTRONG ASTRO	B–1	4	15	1760	211	120/1	10	-
2	ARMSTRONG ASTRO	B–2	5	15	1760	211	120/1	10	
3	ARMSTRONG ASTRO	B–3	5	15	1760	211	120/1	10	
4	ARMSTRONG ASTRO	B–4	4	20	1760	211	120/1	10	50% GLYCOL/WATER SOLUTION
5	ARMSTRONG ASTRO	MANIFOLD 1	1.0	20	1760	150	120/1	10	
6	ARMSTRONG ASTRO	MANIFOLD 2	3	20	1760	150	120/1	10	
7	ARMSTRONG ASTRO	MANIFOLD 3	1.0	20	1760	150	120/1	10	
8	ARMSTRONG ASTRO	MANIFOLD 4	4	20	1760	150	120/1	10	
9	ARMSTRONG ASTRO	MANIFOLD 5	1.0	20	1760	150	120/1	10	
10	ARMSTRONG ASTRO	MANIFOLD 6	4	20	1760	150	120/1	10	

RESIDENTIAL UNIT
HEATING AND COOLING LOAD CALCULATIONS

HEATING AND COOLING LOADS CALCULATED UTILIZING "CARRIER" HOURLY ANALYSIS PROGRAM (VERSION 4.70) BASED ON ASHRAE PROCEDURES. WHICH IS EQUIVALENT TO ACCA MANUAL J

HEATING AND COOLING EQUIPMENT HAS BEEN SIZED IN ACCORDANCE WITH ACCA MANUAL S

UNIT NO. OR ZONE	CALCULATED LOADS		EQUIPMENT CAPACITY PROVIDED	
	HEATING MBTUH	SENSIBLE COOLING (MBTUH)	HEATING MBTUH	SENSIBLE COOLING (MBTUH)
TYPICAL UNIT	29.2	–	31.0	–
124	48.3	–	51.0	–
133	46.3	–	51.0	–

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sma project no.
16-101

sma project name
POWDERCAT

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REGISTERED PROFESSIONAL ENGINEER No. 8795 MARK J. PETERSON 6/20/17 STATE OF UTAH

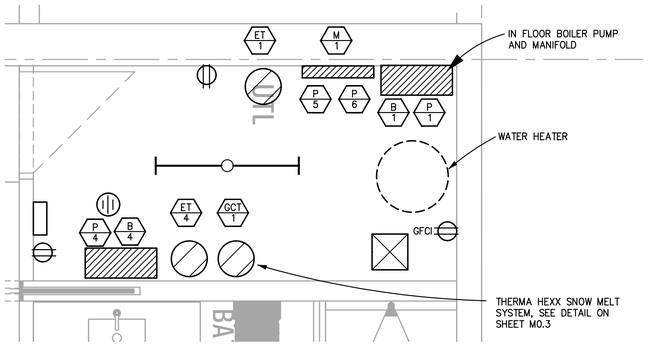
EXPIRES 03/31/19

M0.1
MECHANICAL SCHEDULES

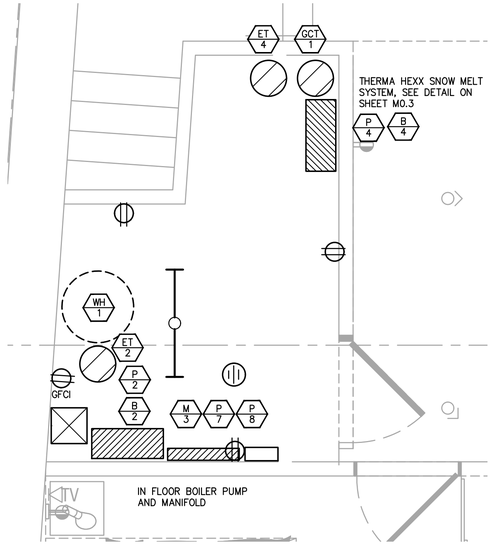
NONE
scale

1
PERMIT SET
phase / rev

2017.06.01
date



ENLARGED UTILITY ROOM - TYPICAL UNIT
1/2"=1'-0"



ENLARGED UTILITY ROOM - UNIT 124
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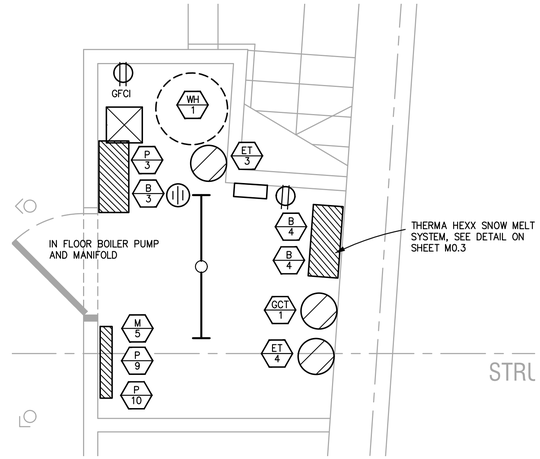

ENLARGED UTILITY ROOM - UNIT 133
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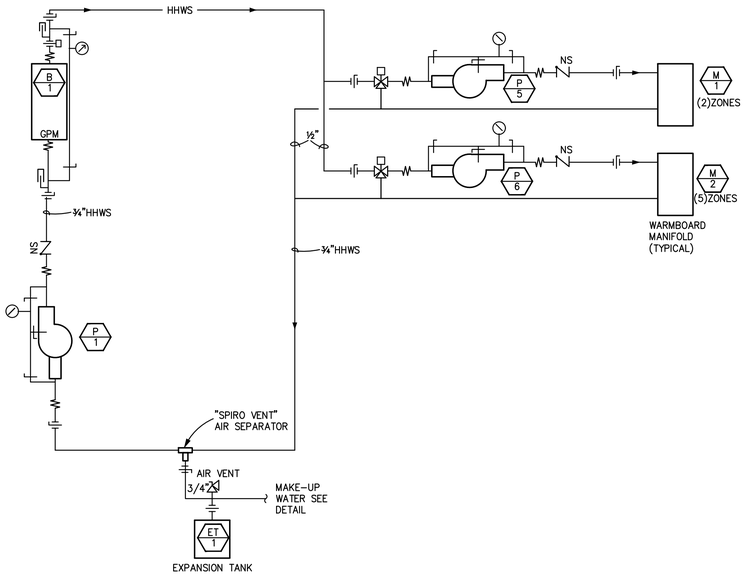
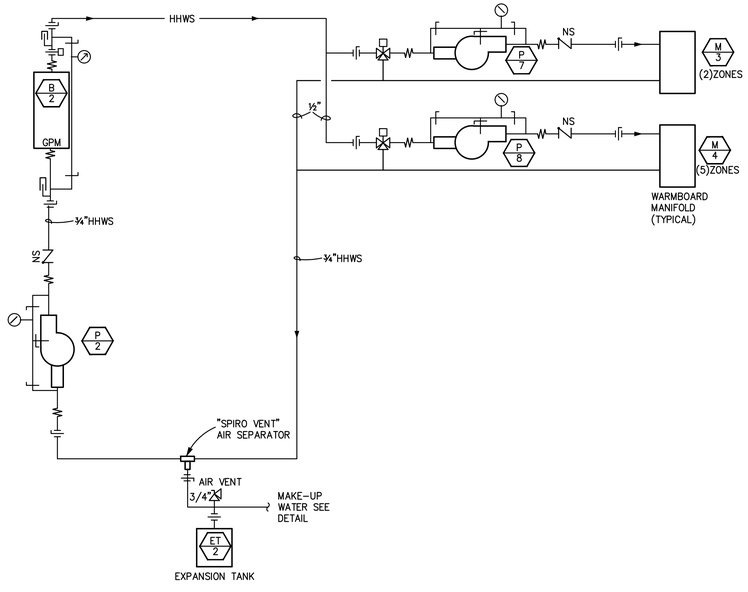
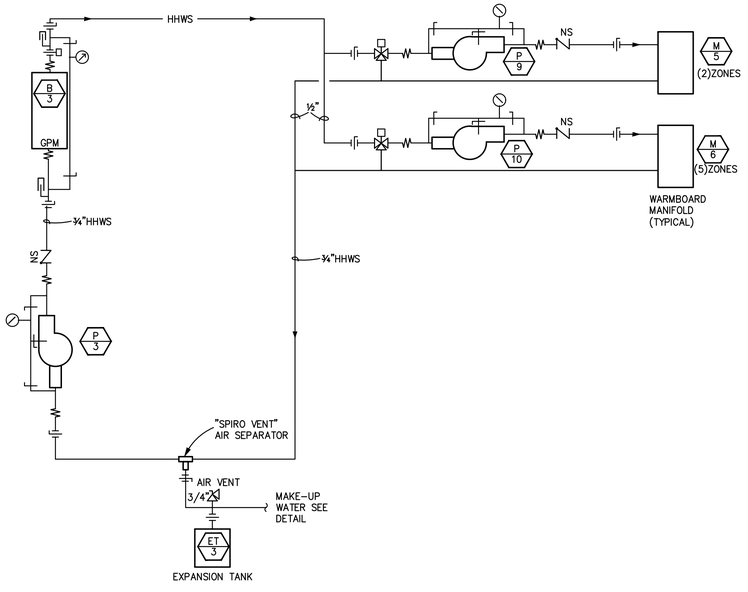


HEATING WATER FLOW DIAGRAM - TYPICAL UNIT



HEATING WATER FLOW DIAGRAM - UNIT 124



HEATING WATER FLOW DIAGRAM - UNIT 133

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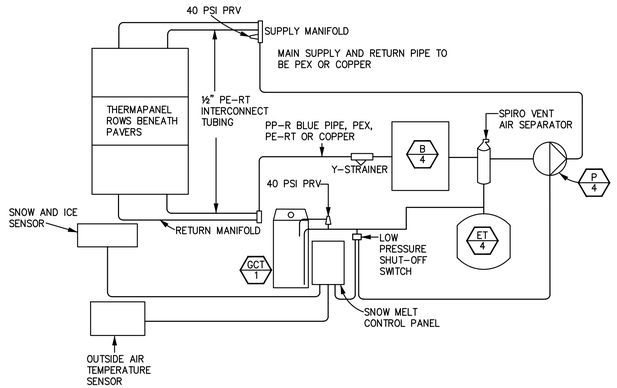
M0.2
MECHANICAL DETAILS

1/4" = 1'-0"
scale

PERMIT
phase / rev

2017.06.01
date



THERMAPANEL SNOW MELT SCHEMATIC

NTS

RADIENT FLOOR SEQUENCE OF OPERATIONS

EACH UNIT WILL BE PROVIDED WITH A HYDRONIC HEATING SYSTEM. THE HEATING SYSTEM CONSISTS OF A BOILER, PRIMARY LOOP WITH CIRCULATION PUMP, SECONDARY LOOPS WITH CIRCULATION PUMPS, AND A DIGITAL CONTROLLER. BOTH PRIMARY LOOP AND SECONDARY LOOP ARE CONSTANT VOLUME. THE HEATING SYSTEM IS CONTROLLED BY A STAND ALONE DIGITAL CONTROLLER MOUNTED IN THE UNITS UTILITY CLOSET. THE CONTROLLER SHALL BE PROVIDED WITH A 120V TO 24V TRANSFORMER AND A MAN MACHINE INTERFACE.

THE BOILERS INTERNAL THERMOSTAT SHALL BE SET TO MAINTAIN A SUPPLY WATER TEMPERATURE OF 167°. UPON CALL FOR HEATING FROM ANY OF THE ZONE THERMOSTATS THE CONTROLLER SHALL SEND A SIGNAL TO ACTIVATE THE PRIMARY LOOP CIRCULATION PUMP. WHEN THE FLOW SWITCH IS ACTIVATED TO CONFIRM FLOW THE BOILER SHALL BE ACTIVATED TO MAINTAIN LOOP TEMPERATURE.

EACH SECONDARY LOOP SERVES A RADIANT HEATING MANIFOLD OR HEATING CONVECTORS LOOP. UPON CALL FOR HEATING FROM THE ZONE THERMOSTAT THE CONTROLLER SHALL ACTIVATE THE ASSOCIATED SECONDARY LOOP PUMP AND MODULATE THE THREE WAY VALVE TO MAINTAIN THE USER ADJUSTABLE LOOP SET POINT TEMPERATURES AS FOLLOWS:

RADIANT HEATING MANIFOLD 110°F (ADJ.)

ZONE THERMOSTATS TO BE FULLY PROGRAMMABLE WITH DAILY SCHEDULES FOR HOURLY PROGRAMMING. THERMOSTAT SHALL HAVE A SETBACK FUNCTION. THE THERMOSTAT SHALL BE SUPPLIED FROM THE MANUFACTURER WITH INITIAL HEATING SET POINT TEMPERATURE OF 70F.

THE BOILER SHALL BE PROVIDED WITH AN OUTDOOR RESET FUNCTION. OA SENSOR TO BE PROVIDED BY THE BOILER MANUFACTURER. THE HOT WATER TEMPERATURE SHALL RESET AS FOLLOWS (USER ADJUSTABLE):

OA TEMPERATURE	HW SUPPLY TEMPERATURE
LESS THAN EQUAL TO 14°F	160°F
15°F TO 50°F	160°F TO 118°F (PROPORTIONAL)
51°F TO 68°F	118°F
GREATER THAN 68°F	BOILER OFF

PIPING SYMBOLS

SINGLE	DOUBLE	ABBR	DESCRIPTION
	●	GV	GATE VALVE
	●	GLV	GLOBE VALVE
	●	BV	BALL VALVE
	●	CV	CONTROL VALVE (2 & 3 WAY) (ELECTRIC OR ELECTRONIC)
	●	CKV	CHECK VALVE
	●	BFV	BUTTERFLY VALVE
	●	BLV	BALANCE & FLOW CONTROL VALVE W/TAPS
	●	NV	NEEDLE VALVE (GAUGE COCK)
MV	●	MV	MANUAL AIR VENT
AV	●	AV	AUTOMATIC AIR VENT (PIPE DRAIN TO F.S.)
	●	ITM	INSTRUMENT THERMOMETER WELL
P	●	PP	PETERSON PLUG W/PS ATTACHMENT
	●	PG	PRESSURE GAUGE & COCK (STEAM SIPHON)
	●	TH	THERMOMETER
	●	ST	STRAINER w/ FULL SIZE BLOW DOWN VALVE
	●	FC	FLEXIBLE CONNECTION
	●	FLG	FLANGE
A B	●	●	REDUCERS: A. ECCENTRIC B. CONCENTRIC
H,S,A	●	H,S,A	HANGER, SUPPORT OR ANCHOR (AS NOTED)
CHWS	●	CHWS	CHILLED WATER SUPPLY
CHWR	●	CHWR	CHILLED WATER RETURN
CWS	●	CWS	CONDENSER WATER SUPPLY
CWR	●	CWR	CONDENSER WATER RETURN
D	●	D	DRAIN
IW	●	IW	INDUSTRIAL MAKE-UP WATER
RV	●	RV	REFRIGERANT VENT
	●	FMS	FLOW MEASUREMENT STATION
	●	PSVM	PRESSURE GAUGE VALVE MANIFOLD WITH GAUGE
	●	HE	HOSE THREAD END
	●	UN	UNION
	●		POINT OF NEW CONNECTION TO EXISTING

MECHANICAL LEGEND

SINGLE	DOUBLE	ABBR.	DESCRIPTION
		○	RECTANGULAR DUCT (NEW)
		○	TRANSITION
		○	ROUND DUCT (NEW) (OR OVAL) ∅ RD ⊘ OVAL
		○	RECTANGULAR DUCT (EXISTING)
		○	ROUND DUCT (EXISTING)
		○	45 DEG. TAP: USE AT BRANCH DUCTS ONLY
		○	DUCT SPLIT W/DAMPER: USE AT ELBOWS AND TEES: PROPORTION DUCT AREAS BY CFM'S
		○	CURVED ELBOW-MIN. RADIUS R. 1.5 WIDTH
		○	90 DEG. ELBOW WITH SINGLE RADIUS TURNING VANES
		○	FLEXIBLE DUCT CONNECTION
		VD	VOLUME DAMPER W/LOCKING QUADRANT
		○	SPIN-IN FLEX DUCT TAKE-OFF W/DAMPER
		S&Q	SPLITTER DAMPER WITH LOCKING QUADRANT
○		SA	SUPPLY AIR
○		EXH	EXHAUST AIR
○		RA	RETURN AIR
○		REL	RELIEF AIR
○		OSA	OUTSIDE AIR
○		○	NEW CONNECTION TO EXISTING
○	○	TA	TRANSFER AIR
○	○	ER	EXHAUST REGISTER
○	○	ED	EXHAUST DUCT
○	○	AFF	ABOVE FINISHED FLOOR
○	○	BFF	BELOW FINISHED FLOOR
○	○	NTS	NOT TO SCALE
○	○	EH	EXHAUST HOOD
○	T	T	THERMOSTAT
		F/S	COMBINATION FIRE/SMOKE DAMPER
		SD	SMOKE DUCT DETECTOR
F	F	○	FIRE STAT SET AT 165°
O	O	○	OUTSIDE AIR STAT
S	S	○	SENSOR

MECHANICAL NOTES

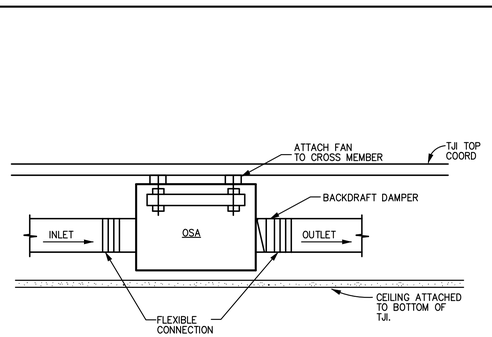
1. FURNISH ALL LABOR, MATERIALS, TOOLS EQUIPMENT, FEES, PERMITS, CERTIFICATE OF INSPECTION, ETC., NECESSARY OR REASONABLE, REQUIRED FOR THE COMPLETE INSTALLATION OF ALL AIR CONDITIONING WORK. THE WORK SHALL BE IN STRICT ACCORDANCE WITH ASHRAE GUIDE, AND ALL LOCAL AND STATE CODES, ORDINANCES AND REGULATIONS.
2. DUCTS SHALL BE FABRICATED OF PRIME GALVANIZED LOCK FORMING QUALITY STEEL SHEETS, OR A GAUGE IN ACCORDANCE WITH THE FOLLOWING TABLE:
   - DUCTS WITH LONGEST SIDE NOT MORE THAN 12" IN WIDTH..26 GA
   - DUCTS WITH LONGEST SIDE 13" TO 30" IN WIDTH.....24 GA
   - DUCTS WITH LONGEST SIDE 31" TO 40" IN WIDTH.....22 GA
   - DUCTS WITH LONGEST SIDE OVER 40".....20 GA
3. PROVIDE RADIUS ELBOWS, TURNING VANES, AND SPLITTER DAMPERS IN BRANCHES AND EXTRACTORS WHERE APPLICABLE.
4. DUCT SIZES SHOWN ARE "CLEAR INSIDE" DIMENSIONS.
5. PREFORM A TOTAL TEST AND BALANCE OF SYSTEM. TESTING COMPANY MUST BE CERTIFIED BY AABC OR NEBB. SUBMIT A CERTIFIED REPORT TO ARCH. 10 DAYS PRIOR TO C OF O WITH A COPY TO CITY INSPECTOR.
6. ALL DUCTWORK TO BE CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH "ASHRAE GUIDE AND SMACNA OR IMC (2015) STANDARDS". SEAL ALL DUCTWORK, LONGITUDINAL AND LATITUDINAL JOINTS WITH DP-1010 SEALANT (PER 2015 IECC).
7. EXACT PLACEMENT OF DIFFUSERS AND REGISTERS TO BE COORDINATED WITH ARCHITECTURAL – REFLECTED CEILING PLAN.
8. CONTRACTOR TO VERIFY LOCATION OF ALL AIR EQUIPMENT SO THAT NO INTERFERENCE ARE ENCOUNTERED WITH OTHER EQUIPMENT OR WITH STRUCTURAL ELEMENTS.
9. MECHANICAL CONTRACTOR TO VERIFY THAT ALL DUCTWORK WILL FIT WHERE INDICATED WITHOUT INTERFERENCE.
10. CONTRACTOR AND ARCHITECT TO VERIFY T-STAT LOCATIONS.
11. THERMOSTATS MUST BE LOCATED 48" ABOVE FINISHED FLOOR. (TO CENTERLINE OF THERMOSTAT) T-STATS SHALL BE 7 DAY PROGRAMMABLE WITH SET-BACK CAPABILITIES (PER 2015 IECC).
12. MECHANICAL CONTRACTOR SHALL INSULATE ALL NEW SUPPLY AND RETURN AIR DUCTWORK LOCATED WITHIN AN ATTIC SPACE WITH MIN. R-6 INSULATION, ALL NEW SUPPLY AIR DUCTWORK LOCATED WITHIN A PLENUM SPACE WITH MIN. R-6 INSULATION AND/OR ANY DUCTWORK EXPOSED TO THE EXTERIOR WITH MIN. R-8 INSULATION (PER 2015 IECC). INSULATION NOT REQUIRED FOR FOR SUPPLY/RETURN AIR DUCTWORK LOCATED WITHIN A PLENUM SPACE WHERE THE ENVELOPE INSULATION IS MIN. R-8 OR ANY EXHAUST DUCT.
13. HVAC CONTRACTOR SHALL REPLACE ALL FILTERS UPON COMPLETION OF CONSTRUCTION. THIS INCLUDES FILTERS AT ALL NEW UNITS AND FILTERS AT ALL EXISTING UNITS AFFECTED BY CONSTRUCTION.

ALL WORK IS ALSO TO CONFORM TO ICC-700 GREEN BUILDING CODE; THIS IS A MANDATE PER SUMMIT POWDER MOUNTAIN. ANY ADDITIONAL REQUIREMENTS TO MEET THIS STANDARD ARE TO BE INCLUDED AND ENUMERATED.

MANIFOLD WARMBOARD: 1¼" BRASS BODY WITH FACTORY MOUNTED MAIN ISOLATION VALVES WITH INTEGRAL TEMPERATURE GAUGES. BRASS END CAPS WITH AUTOMATIC AIR VENT AND DRAIN. BRASS ZONE BALANCING VALVES, BRASS BALL ZONE ISOLATION VALVES, ZONE ACTUATES, METAL OFFSET WALL MOUNTING BRACKETS. SIGHT GLASS AND FLOW METERS.

PUMPS: 3-SPEED INLINE CIRCULATOR, CAST IRON BODY, PA66 IMPELLER, CERAMIC SHAFT, CERAMIC BEARINGS, EPDM GASKET. ETL LISTED FOR UNITED STATES, STD. 778 CERTIFIED TO CSA STD. C22.2 NO. 108-01.

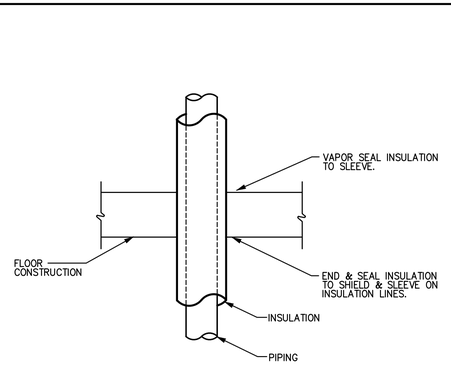
RADON: AFTER BUILDING FOUNDATION AND ENVELOPE CONSTRUCTION IS COMPLETE, CONTRACTOR TO ENGAGE AN AARST-NRPP CERTIFIED TECHNICIAN TO TEST RADON LEVELS IN EACH UNIT. IF THE RADON CONCENTRATION EXCEED 4.0 PCI/L THE RADON MITIGATION FAN (EF-RA) SHALL BE INSTALLED.



M2508

INLINE OSA FAN MOUNTING DETAIL

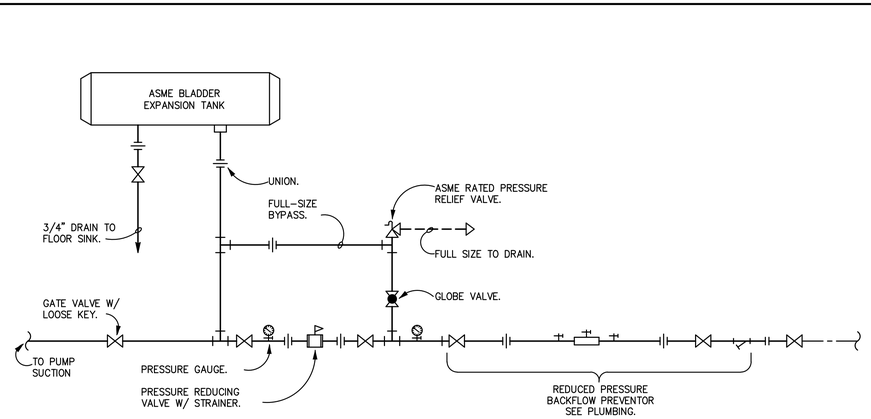
NTS



M4203

PIPE THRU FLOOR DETAIL

NTS



M4108

EXPANSION TANK AND MAKE-UP WATER PIPING DETAIL

NTS

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REGISTERED PROFESSIONAL ENGINEER
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MARK J. PETERSON
5/31/17
STATE OF UTAH

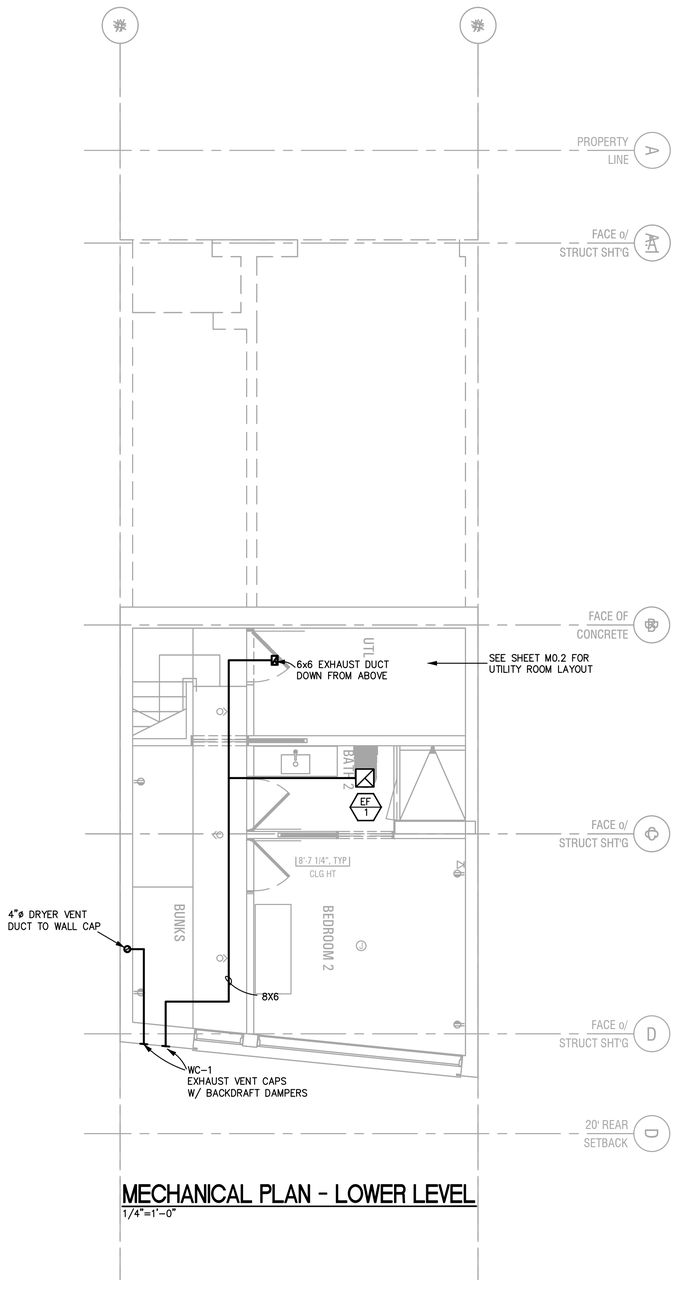
EXPIRES 03/31/19

M0.3
MECHANICAL NOTES

NONE
scale

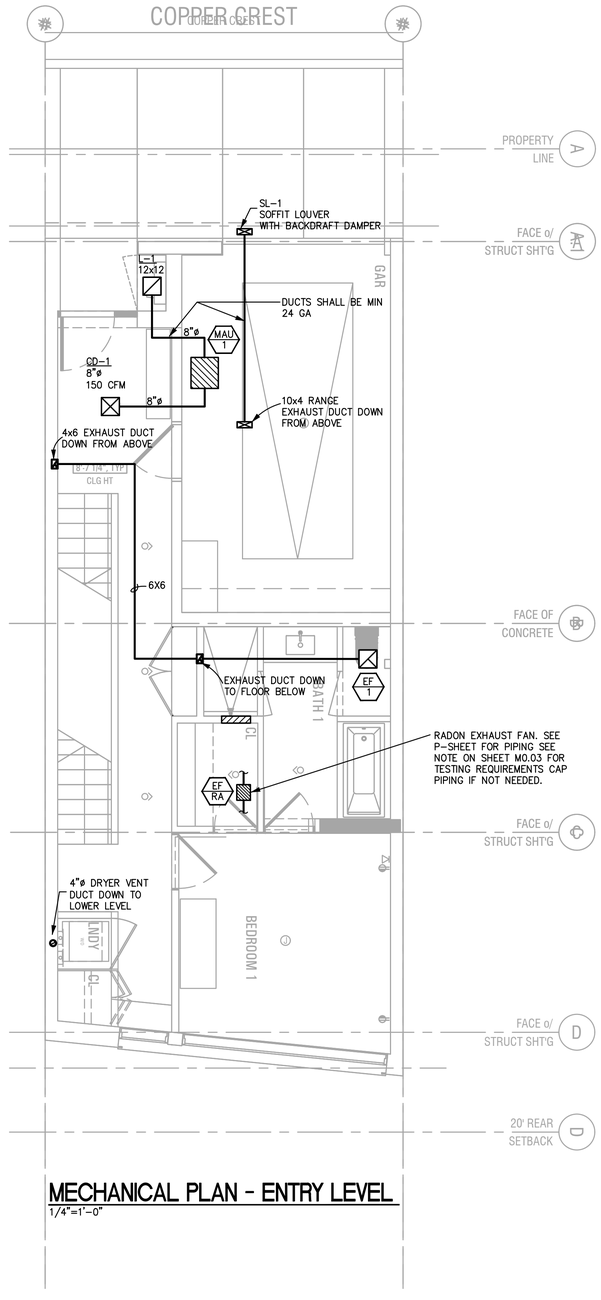
PERMIT
phase / rev

2017.06.01
date



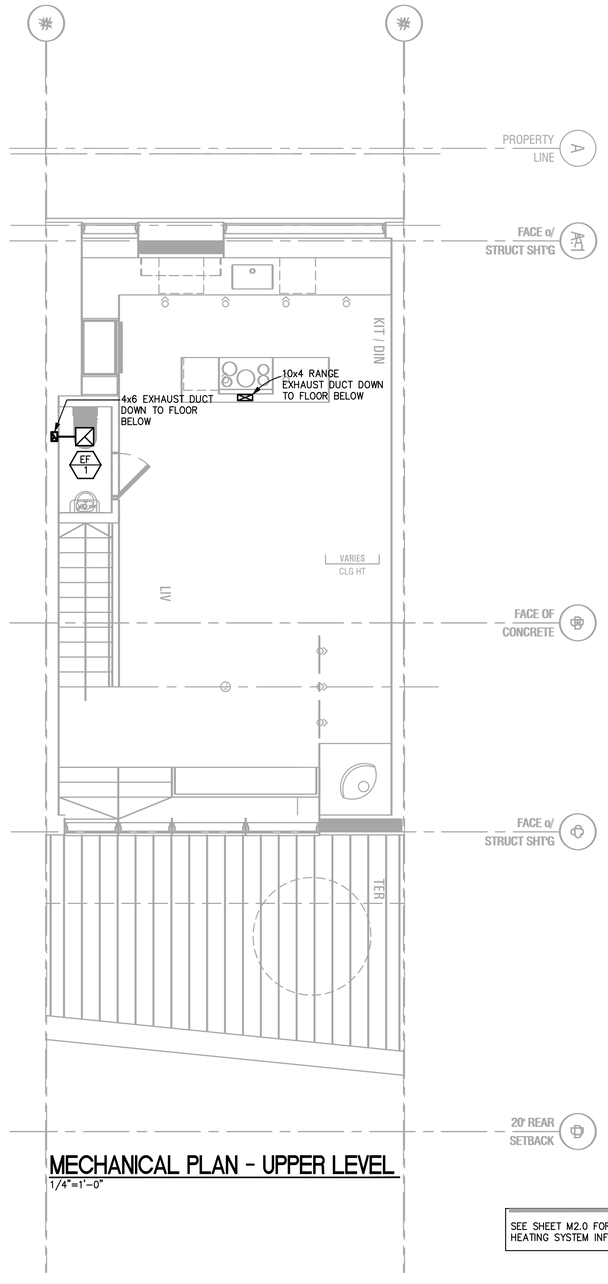
MECHANICAL PLAN - LOWER LEVEL

1/4"=1'-0"



MECHANICAL PLAN - ENTRY LEVEL

1/4"=1'-0"



MECHANICAL PLAN - UPPER LEVEL

1/4"=1'-0"

SEE SHEET M2.0 FOR RADIANT HEATING SYSTEM INFORMATION.

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M1.0
TYPICAL UNIT FLOOR PLANS

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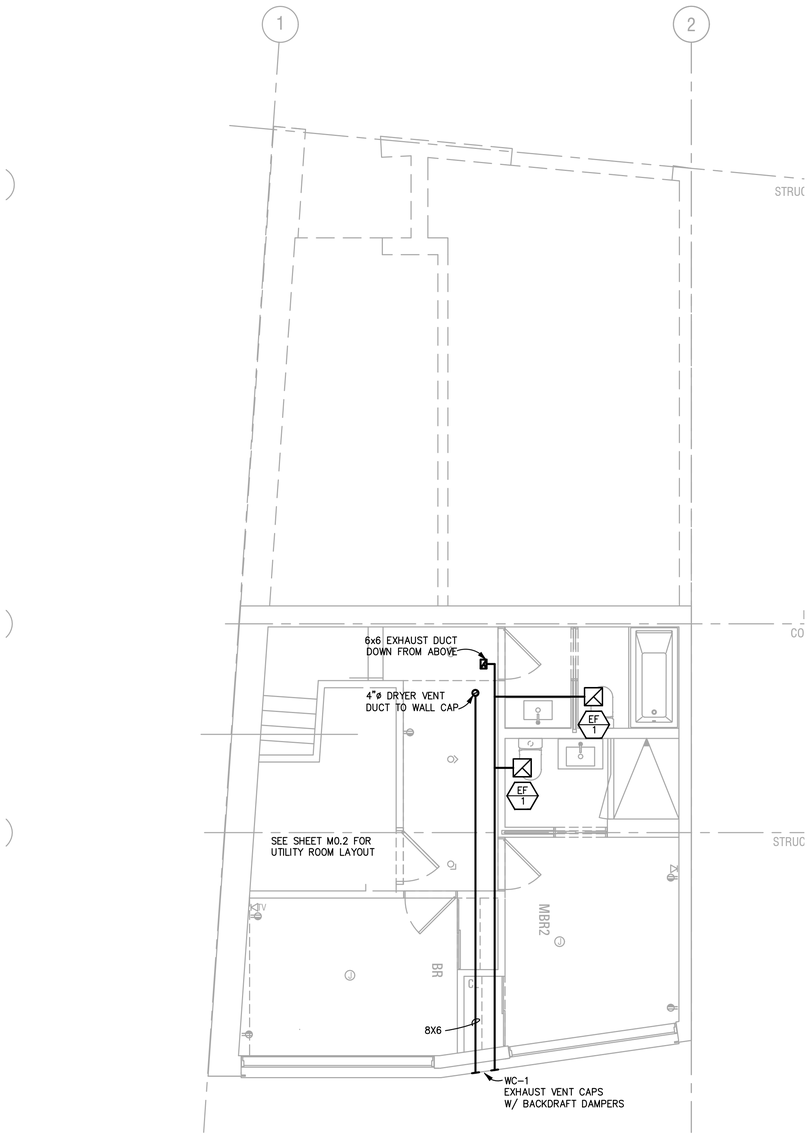
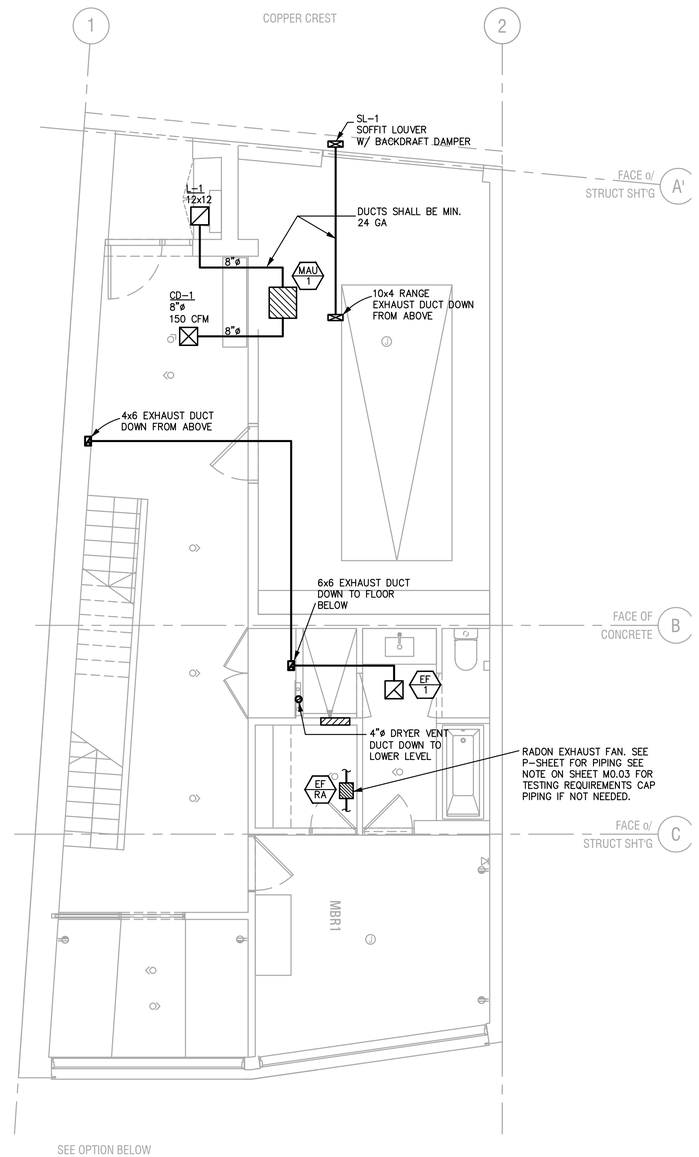


MECHANICAL PLAN - LOWER LEVEL

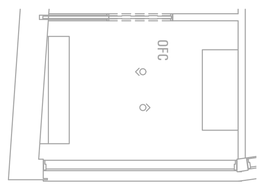
1/4"=1'-0"

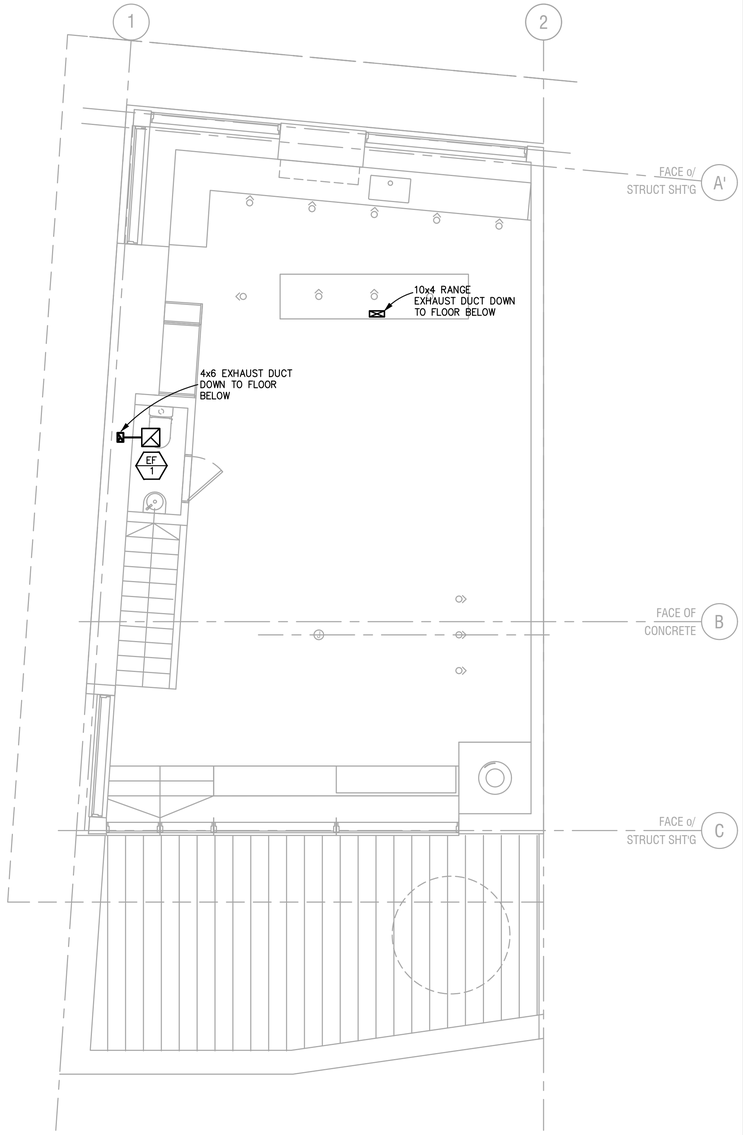


SEE OPTION BELOW

MECHANICAL PLAN - ENTRY LEVEL

1/4"=1'-0"





MECHANICAL PLAN - UPPER LEVEL

1/4"=1'-0"

SEE SHEET M2.1 FOR RADIANT HEATING SYSTEM INFORMATION.

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EXPIRES 03/31/19

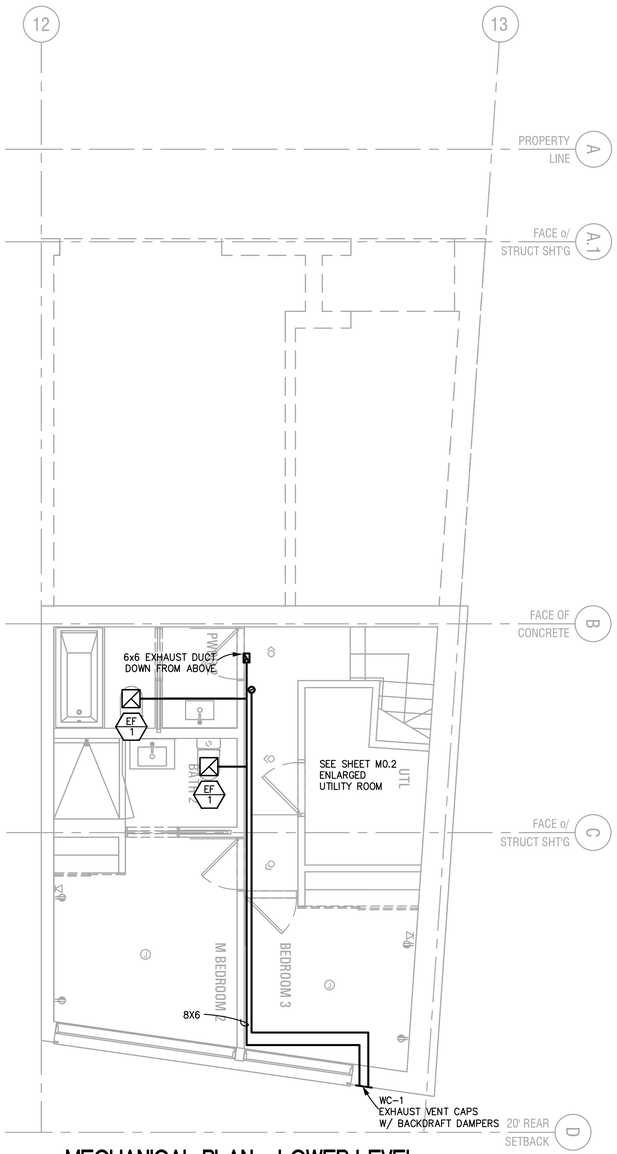
M1.1

LOT 124 FLOOR PLANS

1/4" = 1'-0"
scale

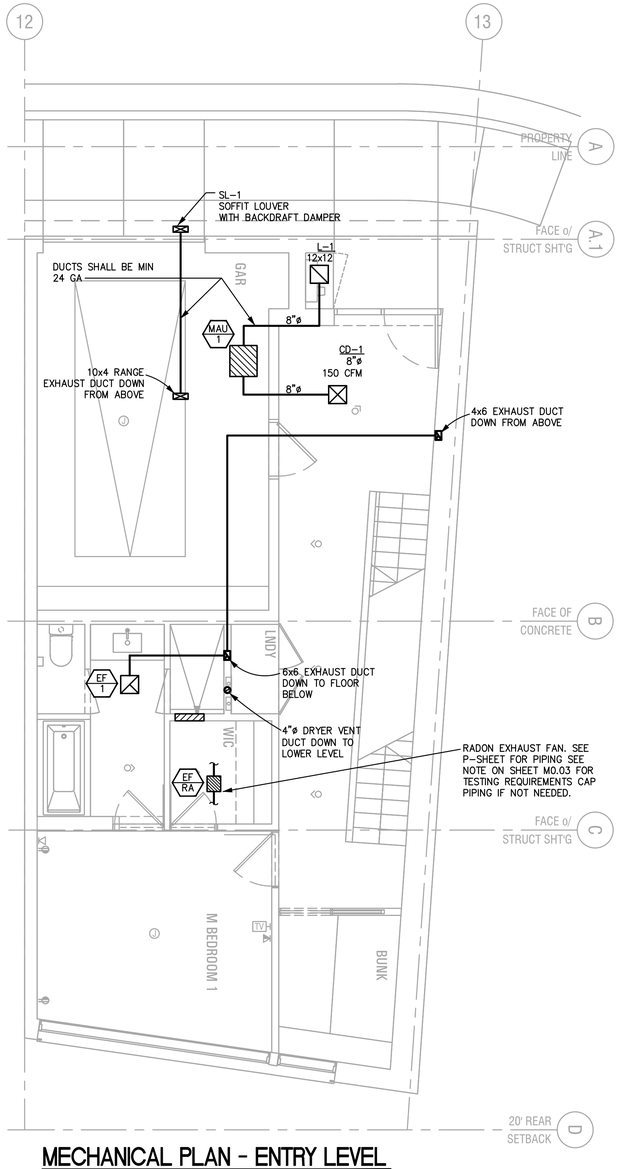
PERMIT
phase / rev

2017.06.01
date



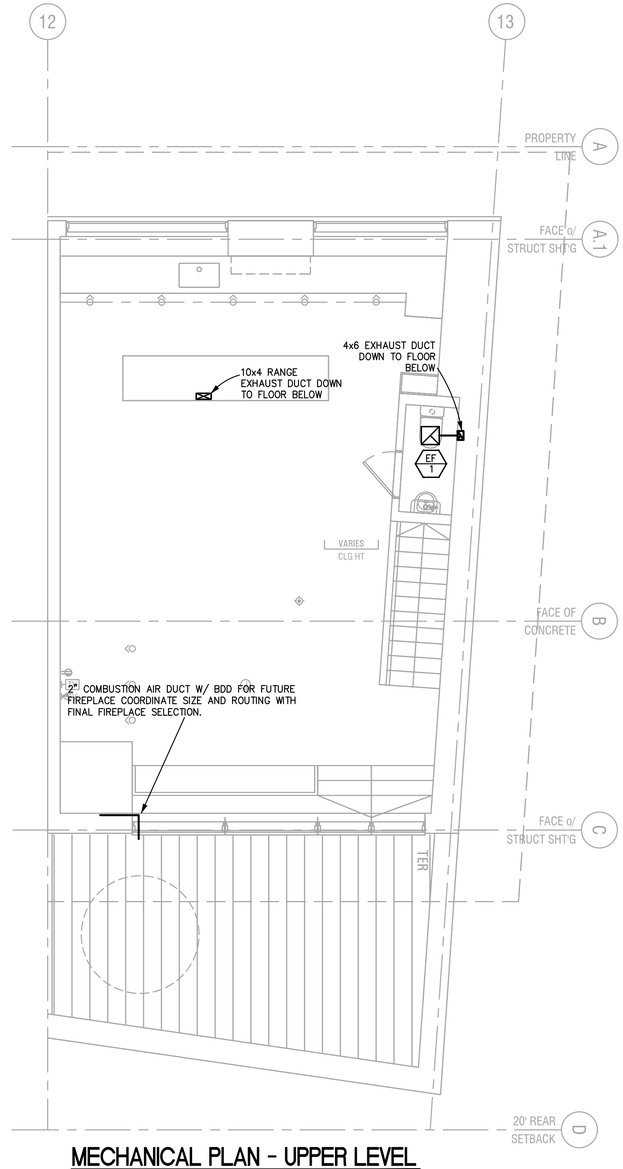
MECHANICAL PLAN - LOWER LEVEL

1/4"=1'-0"



MECHANICAL PLAN - ENTRY LEVEL

1/4"=1'-0"



MECHANICAL PLAN - UPPER LEVEL

1/4"=1'-0"

SEE SHEET M2.2 FOR RADIANT HEATING SYSTEM INFORMATION.

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T 602 251 3800

sma project no.
16-101

sma project name
POWDERCAT

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M1.2

LOT 133 FLOOR PLANS

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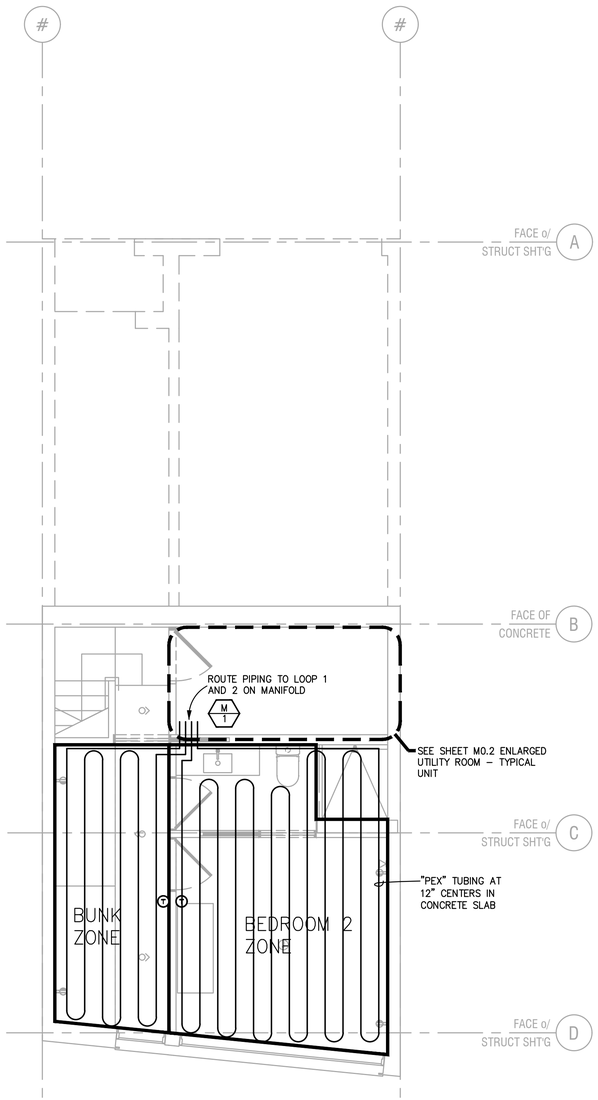

MECHANICAL PLAN - LOWER LEVEL

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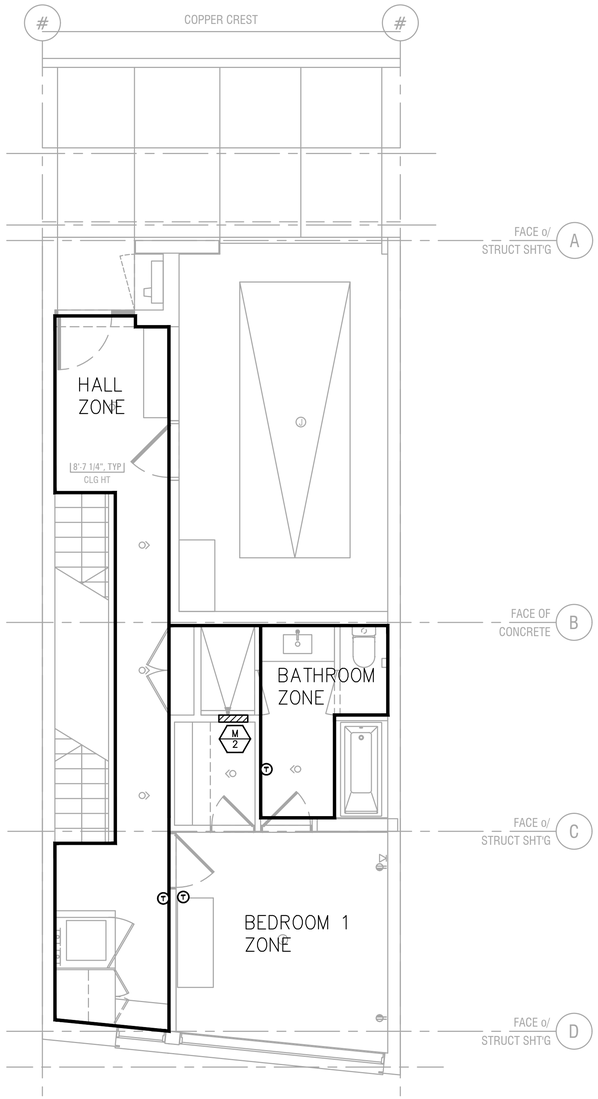

MECHANICAL PLAN - ENTRY LEVEL

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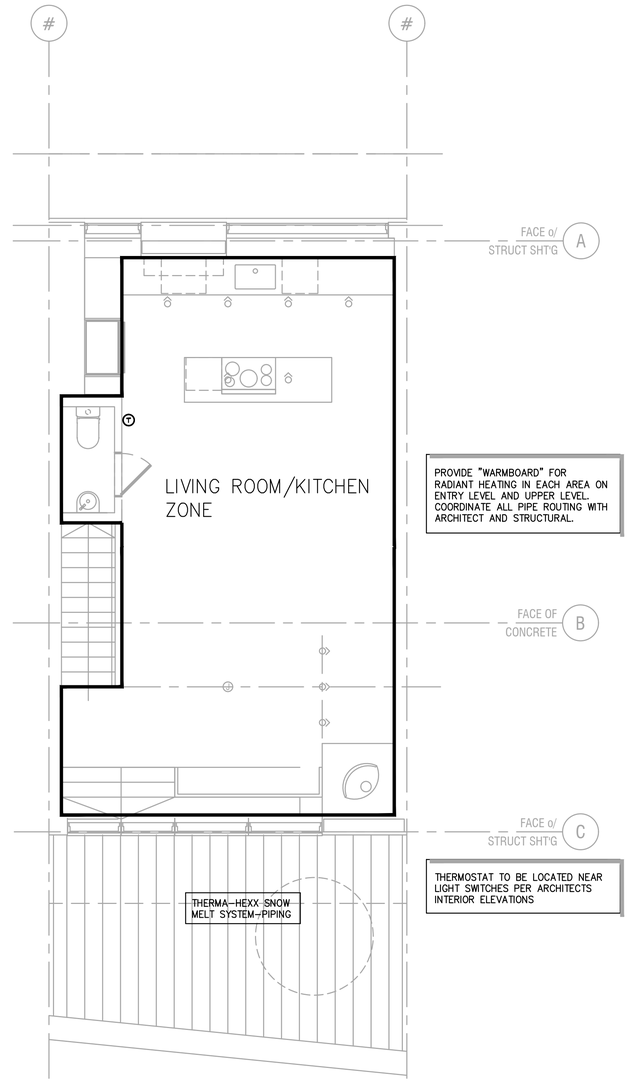

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M2.0
TYPICAL UNIT ZONING PLANS

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scale

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phase / rev

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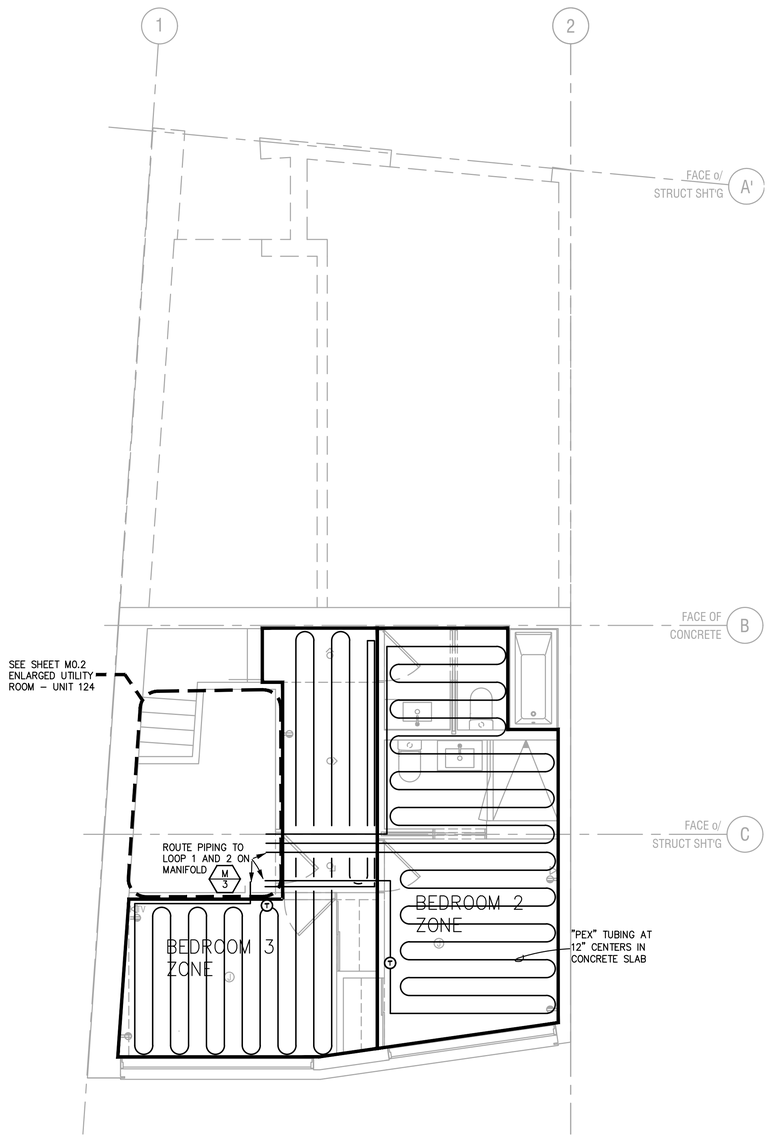
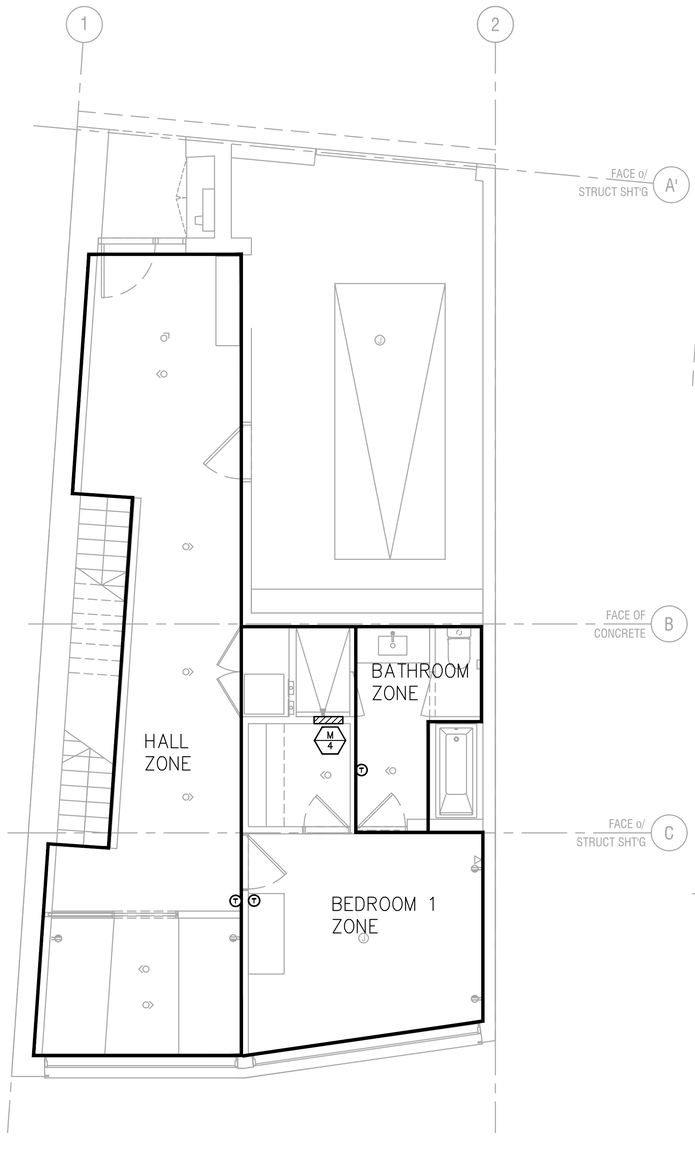


MECHANICAL PLAN - LOWER LEVEL
1/4"=1'-0"



MECHANICAL PLAN - ENTRY LEVEL
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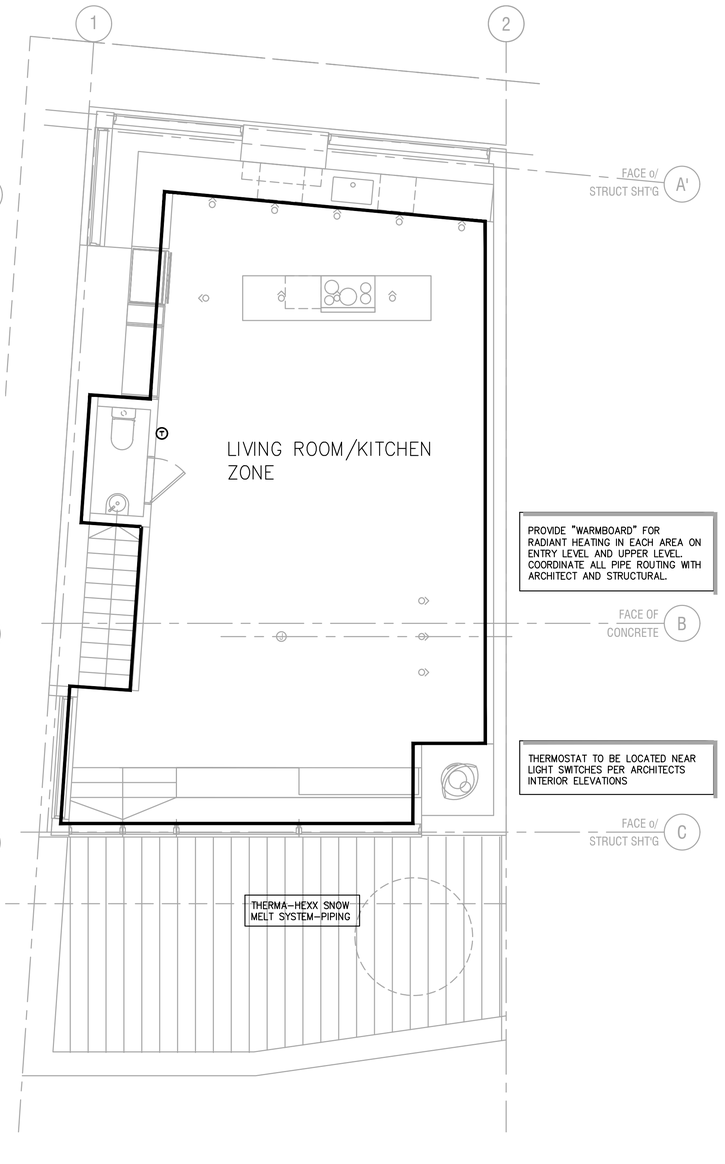

MECHANICAL PLAN - UPPER LEVEL
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LOT 124 ZONING PLANS

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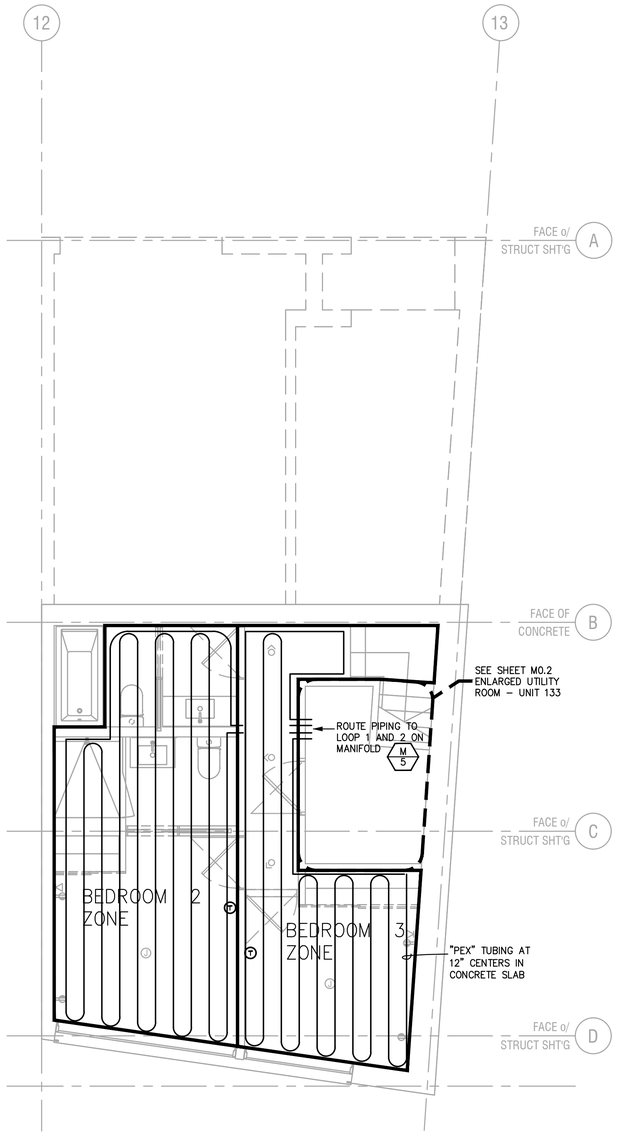

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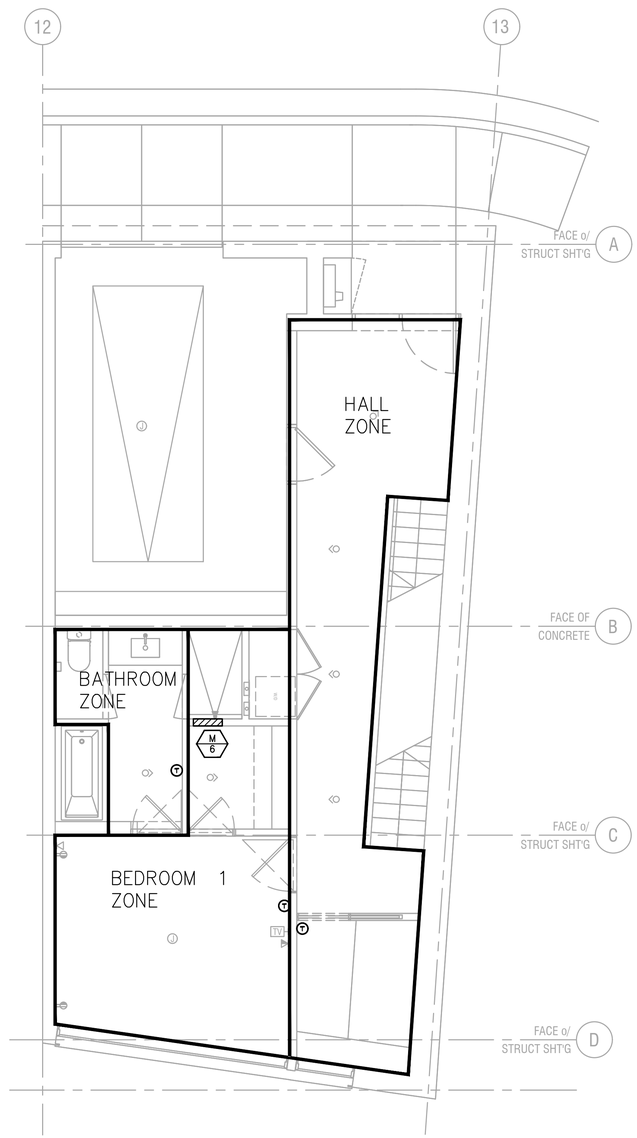

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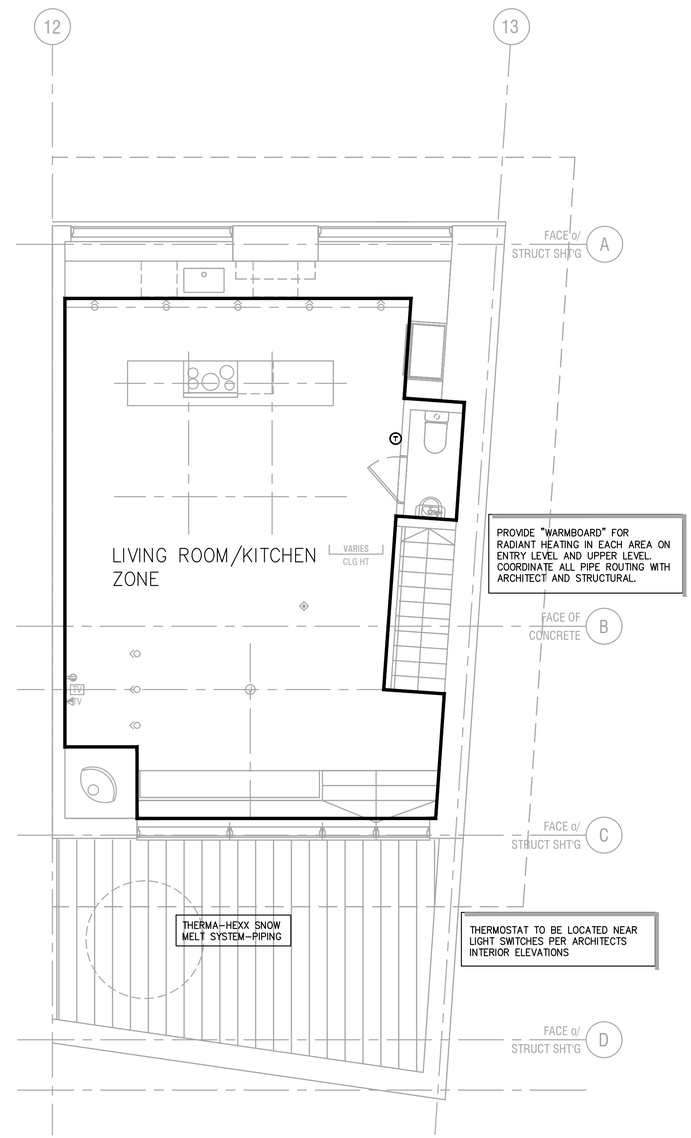

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M2.2

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SECTION 23 0000
MECHANICAL SPECIFICATIONS

PART 1 GENERAL

1.01 SCOPE OF WORK

A. The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complimentary, and what is required by one shall be as binding as if required by all. The Performance by the Contractor shall be required only to the extent consistent with the Contract Documents as reasonably inferable from them as necessary to produce the intended results.
   1. The Contractor shall refer to all project drawings and specifications prior to submission of bid and include monies to provide a complete and functioning system. Reference drawings include, but are not necessarily limited to, Civil, Architectural, Structural, Electrical, Plumbing and Fire Protection.
   2. Work Included: Unless specified otherwise, provide all labor, materials and equipment necessary for completely finished and operational mechanical systems. Provide all minor incidental items such as offsets, fittings, etc. required as part of the Work even though not specified or indicated. All materials used shall be of domestic manufacturers. No foreign material will be allowed.
   3. Description of Systems: The work includes but is not limited to:
      a. Heating, Ventilating and Air Conditioning System(s).
   4. Drawings are diagrammatic. Refer to Civil, Electrical, Plumbing, Fire Protection, Architectural and Structural Drawings and specifications for information on equipment furnished and installed by others which may conflict with rough-in or equipment locations. Coordinate Mechanical system components with all other Disciplines' Work. No adjustment in contract price will be made for failure to review or coordinate work prior to fabrication and/or installation.
   5. Inconsistencies. In the case of any inconsistency between drawings and specifications or within either document not clarified by addendum, the better quality or greater quantity of work shall be provided in accordance with the Engineer's interpretation.

1.02 INSPECTION AND TESTS

A. Furnish Architect with certificate of inspection and approval by local authorities and required test reports prior to final acceptance of the project by the Architect. All work must be inspected and tested per local code requirements.

1.03 PROJECT COORDINATION

A. All Contractors shall be responsible for coordinating Work with other trades and for cutting and re-finishing of existing walls, floors, solid and suspended ceilings, etc., where required by Work shown and noted herein. Install all Work to clear new and existing architectural and structural members. Items such as pipe, fittings, etc., shall not be installed in conflict with equipment. Coordinate all cutting and patching with the General Contractor. Subcontractor shall be responsible for all cutting and patching of his Work. Obtain written permission of Architect before proceeding with any cutting or patching of structural systems.
B. Any discrepancies which may affect the Contractor's bid shall be brought to the attention of the Engineer and Architect for direction.
C. During construction, coordinate use of site and facilities and work sequence to meet the project requirements.
D. Contractor shall coordinate with Electrical Subcontractor to insure proper electrical voltage requirements for all mechanical equipment.
E. Coordinate exact location of ceiling outlets with lighting plan and Architectural Drawings.

1.04 FIELD VERIFICATION

A. Contractor shall visit the job site and familiarize himself with all existing conditions which may affect his bid. All existing equipment, ductwork, air distribution devices, thermostats, controls and piping are shown on the drawings for reference only. No allowances will be made after the bid for existing conditions or the Contractor's failure to verify existing conditions.
B. The following items shall be verified:
   1. Exact placement, size, capacity, manufacturer and condition of all existing HVAC equipment within the scope of work whether specifically shown on the drawings or not.
   2. Size and location of all existing ductwork.
   3. Structural members which may be in conflict with new work.
   4. Size and location of all existing grilles, registers, louvers and diffusers.
   5. Type and location of all thermostatic control devices.
   6. Size and location of all existing hydronic piping, valves and controls.
C. Any discrepancies which may affect the Contractors bid shall be brought to the attention of the Engineer and Architect for direction.

1.05 SUBMITTALS

A. See Architectural Administrative Requirements, for submittal procedures.
B. Product Data: Provide shop drawings and manufacturers' product data and catalog information on the following:
   1. All HVAC equipment, including roof curbs, controls, etc.
   2. Air distribution systems, including ductwork, fittings, insulation, fire dampers, diffusers, grilles, balancing dampers, sound attenuators, etc.
   3. Hydronic distribution systems, including piping, valves, fittings, insulation, air separators, expansion tanks, etc.
C. Project Record Documents: Provide Digital (PDF) of Record Documents and peration manuals, diagrams, service contracts, guarantees, etc. for Owner's use. Record actual locations of all ductwork, piping, valves or equipment and incorporate into the Record Documents to show the final "Installed" conditions.
D. Submit only those manufacturers listed on the drawings or in the specific section unless prior approval was obtained.
E. Submit shop drawings and product data grouped to include complete submittals of related systems, products, and accessories in a single submittal. Partial submittals will not be reviewed by the Engineer.
F. Mark dimensions and values in units to match those specified.
G. Clearly identify specific components on multi-item equipment or data sheets.
H. The Installing Contractor shall review all submittals for compliance with plans and specifications. The contractor shall stamp each item in the submittal indicating that the review process has been completed.
I. Any discrepancies in the submittals from the requirements of the plans and specifications shall be noted by the Installing Contractor. If major discrepancies, errors, or product omissions are found, the Installing Contractor shall correct the submittals before forwarding for review by the Engineer.

1.06 REQUEST FOR INFORMATION

A. Requests for information are to be submitted to the Architect/Engineer by the General Contractor.
B. Sufficient back-up information shall be included to describe the situation. Where possible a suggested solution shall be included to facilitate response time.

1.07 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with not less than three years of experience.
B. Installer Qualifications: Company specializing in performing the work of this section with minimum five years of experience.
C. Products Requiring Electrical Connection: Listed and classified by UL as suitable for the purpose specified and indicated.

1.08 REGULATORY REQUIREMENTS

A. All materials, equipment and installation must comply with all applicable laws, codes, rules, and regulations, required by City, County and State, as well as Federal requirements.

1.09 WARRANTY

A. Contractor shall guarantee all materials, equipment and workmanship from defect and shall replace or repair, without additional cost to the Owner, all defective material, equipment and workmanship for a period of one year after Date of Substantial Completion.
B. Submit manufacturers' warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.

PART 2 PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

A. Manufacturer's names and catalog numbers are scheduled or specified for the purpose of establishing standard of design, quality, appearance, performance and serviceability, and not to limit competition. Scheduled products (as may be modified by detailed specifications) are those selected as the basis for system design with respect to physical size and space arrangements, required capacity and performance characteristics, and the product quality intended.
B. The Drawings indicate specified products physically arranged in the spaces, as cataloged by specific manufacturers, generally as listed in the Equipment Schedules.
C. Listed "Acceptable Manufacturers" are those considered capable of manufacturing products conforming to detailed Specifications, as as such, are invited to compete on an equal basis provided the offering is comparable in every respect to scheduled or specified products and actually conforms to the detailed Specifications and Schedule requirements. Listing herein as "acceptable manufacturers" does not imply "accepted", "approved", "prior approval", or any other such connotation. All product offerings must be submitted for approval after Contract award.
D. Acceptable Manufacturers:
   1. Pumps: Armstrong, Taco
   2. Underfloor Radiant Panels: Warm Board
   3. Exhaust and Supply Fans: Greenheck, Cook, Twin City
   4. Grilles, Registers and Diffusers: Sieho, Air Concepts
   5. Valves: Apollo, Nibco, Milwaukee, Crane
   6. Flow Controls: ITT Bell & Gossett, Griswold, Taco, Warm Board
E. Substitutions of materials or products shown herein shall be at the Owner's, Architect's or Engineer's written approval only and must be made in accordance with the Architect's requirements.

2.02 FLAME SPREAD AND SMOKE DEVELOPED PROPERTIES OF MATERIALS

A. Material and adhesives used throughout the mechanical systems for insulation, acoustical lining, filters, ducts, flexible connections, and jackets or coverings regardless of kind, or for piping or continued combustion and with a smoke developed rating not higher than 50. If such materials are to be applied with adhesives, they shall be tested as applied with such adhesives, or the adhesives used shall have a flame spread rating not over 25 and a smoke developed rating not higher than 50.
B. "Flame Spread Rating" and "Smoke Developed Rating" shall be as determined by the "Method of Test of Surface Burning Characteristics of Building Materials, NFPA No. 255, ASTM E84, Underwriters Laboratories, Inc., Standard". Such materials are listed in the Underwriters Laboratories, Inc. "Building Materials List" under the heading "Hazard Classifications (Fire)".

2.03 IDENTIFICATION OF PIPING, AND EQUIPMENT

A. Markings - Identify each piping system installed wherever accessible for maintenance operations with the direction of flow (where applicable) indicated by legends and flow arrows. The markings shall be applied after all painting and cleaning of the piping and insulation is completed.
B. Apply identification to piping throughout, the mechanical rooms and valve boxes

2.04 ELECTRIC MOTORS

A. Shall conform to the requirements of IEEE, NEMA, and shall have voltage, phase, frequency and service as scheduled.
B. Each item of motor driven equipment shall be furnished complete with the motors, drives and control equipment, including remote pilot devices as required to perform the specific function for which it is intended.
C. Motors shall be sleeve or ball bearing type selected for quiet operation, shall be manufactured for general purpose duty, with each bearing accessible for lubrication, and designed for the load imposed by the drive.
D. Motors 1/2 horsepower and larger shall have bearings with pressure grease lubrication.
E. Motors connected to drive equipment by belt shall be furnished with adjustable slide rail bases except for fractional horsepower motors which shall have slotted bases. Motor leads shall be permanently identified and supplied with connectors.
F. Each motor shall be suitable for the brake horsepower of the driven unit, rated with 1.15 minimum service factor, with the temperature rise not to exceed NEMA standards and shall be capable of withstanding momentary overloads of 25 percent without injurious overheating.

2.05 MOTOR STARTERS

A. Except where otherwise specified or scheduled, each starter shall be furnished by the supplier who furnishes the equipment it controls.
B. Provide a manual or magnetic starter for each motor. They shall be as recommended by the equipment manufacturer.

2.06 ACCESS DOORS

A. Furnish, for installation under appropriate Section of the Work, access doors at each point required to provide access to concealed valves, dampers, damper operators, and other devices requiring operation, adjustment, or maintenance. See archictects plans for details

2.07 SLEEVES, INSERTS, ANCHORS AND SUPPORTS

A. Provide in concrete, carpentry or masonry construction, hangers, sleeves, expansion bolts, inserts, supporting steel, or other fixtures necessary for the support of pipe, equipment and devices furnished under each Section of the Specifications.
B. Provide each pipe, conduit, or duct passing through fire, smoke or sound control walls, floors, ceilings or partitions with sleeves having internal dimension approximately 1-inch larger than the outside dimension (including insulation) of pipes, conduits or ducts.
C. Sleeves (when required) through interior partitions and floors shall be no less than 22 gage galvanized steel, set flush with the finished surfaces.

2.08 FIRESTOPPING

A. Seal annular spaces between sleeves and penetrating materials in fire rated floors, ceilings, and walls with fireproof and waterproof silicone elastomer applied in accordance with the manufacturer's published instructions. Multiple penetrations shall be sealed with silicone calking. Seal material shall be UL classified for use in fire rated penetration seals, and shall be applied in the manufacturer's recommended thickness for the fire rating of the penetrated structure in accordance with ASTM E-814 requirements.

2.09 ESCUTCHEONS

A. Provide escutcheons or 22 gage minimum painted galvanized sheet metal wall flanges (in event standard manufactured product does not exist) for mechanical or electrical penetrations of floors, ceilings, walls or partitions. Escutcheons shall be sized to enclose the outside of the penetration sleeve and fit snugly to the pipe (or over outside of insulation) of insulated lines. Both exposed surfaces of each penetrated elements shall be fitted with escutcheons which shall both afford a finished appearance.
B. Except where otherwise specified, escutcheons shall be one-piece (where practicable) or split, hinged, stamped brass type designed to fit the pipe, and to cover the terminating pipe sleeve, in chrome plated finish, with securing device to hold the escutcheon tight to the pipe.

2.10 FLASHINGS

A. Furnish weatherproof flashings for mechanical system related openings through the roof for installation under roofing specification. See arch drawings for all flashings requirements.

2.11 THERMOSTATS

A. Electric Room Thermostats:
   1. Type: NEMA DC 3, 24 volts, with setback/setup temperature control. Thermostats shall be Wi-Fi compatible for integration into Home Automation System.
      a. Seven day programmable with set-back capabilities per current IECC.
   2. Service: heating.
B. Thermostats must be located 48" above finished floor to centerline of device. Verify exact location with Architect.

2.12 DUCTWORK

A. Fabricate and support in accordance with SMACNA HVAC Duct Construction Standards - Metal and Flexible, International Mechanical Code and as indicated. Provide duct material, gages, reinforcing, and seal all longitudinal and transverse joints with DP-1010, for operating pressures of 2.0" static pressure and below.
B. Each duct system shall be complete with all required ductwork fittings, turning vanes, splitter dampers and supports.
C. Galvanized Steel Ducts: Hot-dipped galvanized steel sheet, ASTM A 653/A 653M FS Type B, with G90 coating.
D. Joint Sealers and Sealants: Non-hardening, water resistant, mildew and mold resistant.
   1. Type: Heavy mastic or liquid used alone or with tape, suitable for joint configuration and compatible with substrates, and recommended by manufacturer for pressure class of ducts.
   2. Surface Burning Characteristics: Flame spread of zero, smoke developed of zero, when tested in accordance with ASTM E 84.
E. Crossbreak all sides of all ducts. Ductwork shall have no objectionable noise, and Contractor shall provide any additional stiffeners required.
F. All longitudinal seams shall be Pittsburgh lock seam, hammered flat, with all transverse joints sealed airtight.
G. Construct T's bends, and elbows with radius of not less than 1-1/2 times width of duct on centerline. Where not possible and where rectangular elbows must be used, provide air foil turning vanes of perforated metal with glass fiber insulation.
I. Ductwork shall conform to dimensions on the drawings unless locations of structural members prohibit. In case of changes in dimensions, cross sectional areas shall be maintained. Attach hangers to the top cord of trusses.
J. All duct sizes shown on the drawings are clear inside dimension. Increase size of duct as required to accommodate duct liner.
K. All ducts shall be substantially supported with hangers to the structure or otherwise depending on location conditions. Hangers shall conform to all SMACNA and IMC requirements.
P. Standard 45 degree lateral wye takeoffs unless otherwise indicated where 90 degree conical tee connections may be used.
Q. Where ducts are connected to exterior wall louvers and duct outlet is smaller than louver frame, provide blank-out panels sealing louver area around duct. Use same material as duct, painted black on exterior side, seal to louver frame and duct.

2.13 DUCTWORK PRESSURE CLASS

A. General Exhaust: 1 inch w.g. (250 Pa) pressure class, galvanized steel.
B. Outside Air Intake: 1 inch w.g. (250 Pa) pressure class, galvanized steel.

2.14 DUCTWORK INSULATION

A. Glass Fiber, Flexible
   1. Insulation: ASTM C 553; flexible, noncombustible blanket.
   2. Vapor Barrier Jacket:
      a. Kraft paper with glass fiber yarn and bonded to aluminized film.
      b. Moisture Vapor Permeability: when tested in accordance with
         1) ASTM E 96.
         2) Secure with Pressure sensitive tape.
B. Duct Liner
   1. Insulation: Incombustible glass fiber complying with ASTM C 1071; flexible blanket; impregnated surface and edges coated with poly vinyl acetate polymer or acrylic polymer shown to be fungus and bacteria resistant by testing to ASTM G 21.
   2. Liner Fasteners: Galvanized steel, self-adhesive pad; impact applied; or welded with integral; or press-on head.

2.15 GRILLES, REGISTERS AND DIFFUSERS

A. Furnish and install all grilles, registers, ceiling diffusers and door grilles where indicated. They shall be of size and model called for on the drawings.
B. All grilles, registers, and ceiling diffusers must be set flush and true to wall or ceiling to prevent air leakage around edges. All units shall be provided with neoprene gasketing around the inside of the frame.
C. Check location of outlets and inlets and make necessary adjustments in position to conform with architectural features, symmetry, and lighting arrangement.
D. All units shall be factory finished, of color selected by the Architect, or as otherwise indicated.
E. Paint all ductwork, turning vanes, insulation, etc., that is visible through grilles, registers, or ceiling diffusers flat black.

2.16 RADIANT HEATING PIPING

A. Polyethylene Pipe: ASTM F876 or ASTM F877, ASTM F877 cross-linked polyethylene, 100 psig (690 kPa) operating pressure at 180 degrees F (82 degrees C).
   1. Fittings: Brass and copper.
   2. Joints: Mechanical compression fittings.
B. Composite Polyethylene Pipe: Aluminum tube laminated between two layers of high density polyethylene.
   1. Fittings: Brass flared compression.
   2. Joints: Fittings adapt to copper tubing or copper tube fittings, threaded pipe and fittings, and copper compression fittings.

2.17 UNIONS, FLANGES, AND COUPLINGS

A. Grooved and Shouldered Pipe End Couplings:
   1. Housing Clamps: Malleable iron galvanized to engage and lock, designed to permit some angular deflection, contraction, and expansion.
   2. Sealing Gasket: C-shape elastomer composition for operating temperature range from -30 degrees F (-34 degrees C) to 230 degrees F (110 degrees C).
   3. Accessories: Steel bolts, nuts, and washers.
B. Dielectric Connections: Union with galvanized or plated steel threaded end, copper solder end, water impervious isolation barrier.

2.18 BALL VALVES

A. Up To and Including 2 Inches (50 mm):
   1. Bronze two piece body, chrome plated brass ball, teflon seats and stuffing box ring, lever handle with balancing stops, solder ends with union.

2.19 GLYCOL SYSTEM

A. Mixing Tank: 10 gallon (40 L) steel drum with fittings suitable for filling and hand pump for charging, rubber hose for connection of hand pump to system.
B. Storage Tank: Closed type, welded steel constructed, tested and stamped in accordance with ASME BPVC-VIII-1 <https://global.ihs.com/doc_detail.cfm?rid=BSD&document_name=ASME%20BPVC-VIII-1>; 100 psi (690 kPa) rating; cleaned, prime coated, and supplied with steel support saddles. Construct with tappings for installation of accessories.
C. Expansion Tank: Diaphragm type with vent fitting with air separator, and automatic air vent.
D. Air Pressure Reducing Station: Pressure reducing valve with shut-off valves, strainer, check valve and needle valve bypass.
E. Glycol Solution:
   1. Inhibited ethylene glycol and water solution mixed 50 percent glycol - 50 percent water, suitable for operating temperatures from minus 40 degrees F (minus 40 degrees C) to 250 degrees F (121 degrees C).

2.20 3-WAY CONTROL VALVES

A. Globe with mixed flow pattern. ASMA B16.5 Class 125 cast bronze with threaded connections.DTFE -V ring, stainless steel trim.

2.21 SWING CHECK VALVES

A. Up To and Including 2 Inches (50 mm):
   1. Bronze body, bronze trim, bronze rotating swing disc, with composition disc, solder ends.

2.22 HVAC PIPING INSULATION

A. Heating Systems:
   1. Radiant Heat:
      a. Flexible Elastomeric Cellular Insulation:
         1) Pipe Size Range: All sizes.
         2) Thickness: 1 inch.

PART 3 EXECUTION

3.01 PROTECTION OF EQUIPMENT

A. Protect equipment from physical damage and deterioration after it is delivered to the Project, and during the installation period prior to Owner acceptance.
B. The equipment shall be kept clean. Motors and electrical devices shall be covered with suitable materials to prevent dirt or dust accumulation within equipment. Machinery and devices shall be properly oiled and maintained to prevent rusting and deterioration.
C. Repair scratches, mars, or paint deterioration.

3.02 EQUIPMENT SPACE

A. The Drawings indicate specified products physically arranged in the spaces, as cataloged by specific manufacturers, generally as listed in the Equipment Schedules.
B. Prepare Shop Drawings indicating the exact physical space requirements for equipment and servicing of equipment actually purchased for each item of equipment involved. NOTE: Physical space required for equipment servicing must be shown on Shop Drawings.
C. Drawings show pipe and ductwork diagrammatically.
D. Adhere to Drawings as closely as possible in layout of work.
E. Vary run of piping, run and shape of ductwork and make offset during progress of work as required to meet structural and other interferences per accepted Shop Drawings.
F. Install piping and ductwork in furred spaces wherever possible. Run exposed piping and ductwork parallel to or at right angles to building walls.
G. Keep horizontal lines as close to ceiling as practicable.
H. Conform to ceiling heights established on architectural construction drawings.

3.03 HVAC DUCTWORK INSTALLATION

A. Install accessories in accordance with manufacturer's instructions, NFPA 90A, and follow SMACNA HVAC Duct Construction Standards - Metal and Flexible. Contractor shall verify that ductwork will fit where indicated without interference prior to installation.
B. All exhaust systems shall have barometric dampers to close when not in operation.

3.04 DUCTWORK INSULATION INSTALLATION

A. Install in accordance with manufacturer's instructions.
B. Install in accordance with NAIMA National Insulation Standards.
C. Insulated duct conveying air below ambient temperature:
   1. Provide insulation with vapor barrier jackets.
   2. Finish with tape and vapor barrier jackets.
   3. Continue insulation through walls, sleeves, hangers, and other duct penetrations.
   4. Insulate entire system including fittings, joints, flanges, fire dampers, flexible connections, and expansion joints.
D. Duct and Plenum; Liner Application:
   1. Adhere insulation with adhesive for 100 percent coverage.
   2. Secure insulation with mechanical liner fasteners. Refer to SMACNA HVAC Duct Construction Standards - Metal and Flexible for spacing.
   3. Seal and smooth joints. Seal and coat transverse joints.
   4. Seal liner surface penetrations with adhesive.
   5. Duct dimensions indicated are net inside dimensions required for air flow. Increase duct size to allow for insulation thickness.

3.05 HVAC PIPING INSTALLATION

A. Ream pipe and tube ends. Remove burrs.
B. Remove scale and dirt on inside and outside before assembly.
C. Prepare piping connections to equipment with flanges or unions.
D. Keep open ends of pipe free from scale and dirt. Protect open ends with temporary plugs or caps.
E. After completion, fill, clean, and treat systems.
F. Install in accordance with manufacturer's instructions.
G. Route piping in orderly manner, parallel to building structure, and maintain gradient.
H. Install piping to conserve building space and to avoid interference with use of space.
I. Group piping whenever practical at common elevations.
J. Sleeve pipe passing through partitions, walls and floors.
K. Slope piping and arrange to drain at low points.
L. Provide support and equipment required to control expansion and contraction of piping. Provide loops, pipe offsets, and swing joints, or expansion joints where required.
M. Install flexible pipe connectors on pipes connected to vibration isolated equipment. Provide line size flexible connectors. Install in accordance with EJMA (Expansion Joint Manufacturers Association) Standards.
N. Install flexible connectors at right angles to displacement. Install one end immediately adjacent to isolated equipment and anchor other end. Install in horizontal plane unless indicated otherwise.
O. Inserts:
   1. Provide inserts for placement in concrete formwork.
   2. Provide inserts for suspending hangers from reinforced concrete slabs and sides of reinforced concrete beams.
   3. Provide hooked rod to concrete reinforcement section for inserts carrying pipe over 4 inches (100 mm).
   4. Where concrete slabs form finished ceiling, locate inserts flush with slab surface.
   5. Where inserts are omitted, drill through concrete slab from below and provide through-bolt with recessed square steel plate and nut recessed into and grouted flush with slab.
P. Pipe Hangers and Supports:
   1. Install in accordance with ASME B31.9.
   2. Support horizontal piping as scheduled.
   3. Install hangers to provide minimum 1/2 inch (13 mm) space between finished covering and adjacent work.
   4. Place hangers within 12 inches (300 mm) of each horizontal elbow.
   5. Use hangers with 1-1/2 inch (38 mm) minimum vertical adjustment. Design hangers for pipe movement without disengagement of supported pipe.
   6. Support vertical piping at every floor. Support riser piping independently of connected horizontal piping.
   7. Where several pipes can be installed in parallel and at same elevation, provide multiple or trapeze hangers.
   8. Provide copper plated hangers and supports for copper piping.
   9. Prime coat exposed steel hangers and supports. Hangers and supports located in crawl spaces, pipe shafts, and suspended ceiling spaces are not considered exposed.
Q. Hanger Spacing for Copper Tubing.
   1. 1/2 inch (15 mm) and 3/4 inch (20 mm): Maximum span, 5 feet (1500 mm); minimum rod size, 1/4 inch (6 mm).
S. Provide clearance in hangers and from structure and other equipment for installation of insulation and access to valves and fittings.
T. Provide access where valves and fittings are not exposed.
U. Use eccentric reducers to maintain top of pipe level.
V. Where pipe support members are welded to structural building framing, scrape, brush clean, and apply one coat of zinc rich primer to welds.
W. Prepare unfinished pipe, fittings, supports, and accessories, ready for finish painting.
X. Install valves with stems upright or horizontal, not inverted.
Y. Valves installed in insulated pipe shall be furnished with extended stems to allow the full insulation thickness to be provided and to allow the valve to be operated without damaging the insulation

3.06 CUTTING AND PATCHING

A. Assume costs and responsibility for cutting and patching required to complete the installation.
B. Surfaces shall be patched to the condition of the adjacent surfaces.

3.07 PAINTING AND FINISHING AND CLEANING

A. Finish painting (other than factory applied) of mechanical equipment, and its associated piping and ductwork, is scheduled under other Sections. Provide touchup painting of prefinished mechanical products.
B. Surfaces shall be left clean, debris shall be removed, and equipment shall be furnished in prime coat finish ready for finish coats.
   1. Piping, ductwork and equipment - Clean exterior of piping, ductwork and equipment, removing rust, plaster and dirt by wire brushing. Remove grease, oil, and similar materials by wiping with clean rags and suitable solvents.
   2. Motors, pumps and other items with factory finish - Remove grease and oil and leave surfaces clean and polished.

3.08 TESTING, ADJUSTING AND BALANCING

I. Water System procedure
   1. Adjust water systems to provide required or design quantities.
   2. Use fittings and pressure gauges to determine flow rates for system balance. Where flow metering devices are not installed, base flow balance on temperature difference across various heat transfer elements in the system or pressure difference across chiller or pumps.
   3. Adjust systems to provide specified pressure drops and flows through heat transfer elements prior to thermal testing. Perform balancing by measurement of temperature differential in conjunction with air balancing.
   4. Effect system balance with automatic control valves fully open to heat transfer elements.
   5. Effect adjustment of water distribution systems by means of balancing cocks, valves, and fittings. Do not use service or shut-off valves for balancing unless indexed for balance point.

END OF SECTION

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EXPIRES 03/31/19

M3.0
MECHANINCAL SPECIFICATIONS

N.T.S
scale

PERMIT
phase / rev

2017.06.01
date

PLUMBING CONSTRUCTION NOTES

1. EXACT LOCATION OF PLUMBING FIXTURES SHALL BE DETERMINED FROM ARCHITECTURAL DRAWINGS.
2. BEFORE SUBMITTING BID, THE PLUMBING CONTRACTOR SHALL REVIEW THE ARCHITECTURAL DRAWINGS AND INCLUDE IN HIS BID AN AMOUNT TO FURNISH AND INSTALL ANY FIXTURES WHICH ARE SHOWN IN ADDITION TO FIXTURES SHOWN ON THE PLUMBING DRAWINGS.
3. CONTRACTOR SHALL VERIFY INVERT ELEVATIONS OF SEWERS TO WHICH NEW WASTE LINES ARE TO BE CONNECTED BEFORE MAKING UP OR INSTALLATION OF NEW WASTE SYSTEM.
4. CONTRACTOR SHALL VERIFY AND COORDINATE LOCATION OF ALL PLUMBING LINES WITH DUCTWORK AND ELECTRICAL SERVICES.
5. THE INSTALLATION OF ALL VALVES, UNIONS, THERMOMETERS, GAUGES, OR OTHER INDICATING OR RECORDING EQUIPMENT, OR SPECIALTIES REQUIRING FREQUENT READING, REPAIRS, ADJUSTMENT, INSPECTION, REMOVAL OR REPLACEMENT SHALL BE CONVENIENTLY AND ACCESSIBLY LOCATED WITH REFERENCE TO THE FINISHED BUILDING.
6. ALL VENTS THROUGH ROOF SHALL BE 10'–0" REMOVED FROM ALL AIR INTAKES, EVAPORATIVE COOLERS, ETC.
7. MINIMIZE THE ROOF PENETRATIONS WHEREVER POSSIBLE, TIE VENTS TOGETHER SO THAT A MINIMUM NUMBER TERMINATE THROUGH THE ROOF. SEE PLAN FOR VENT THROUGH ROOF LOCATIONS.
8. CONTRACTOR SHALL NOT CUT HOLES IN STRUCTURAL MEMBERS WITHOUT FIRST SECURING WRITTEN APPROVAL FROM THE STRUCTURAL ENGINEER.
9. CONTRACTOR SHALL INSTALL DIELECTRIC UNIONS AT CONNECTIONS OF DISSIMILAR METALS.
10. CONTRACTOR SHALL ROUGH–IN ALL WASTES AND SUPPLIES FOR SPECIAL EQUIPMENT ACCORDING TO MANUFACTURERS SHOP DRAWINGS AND MAKE FINAL CONNECTIONS. ALL SUPPLIES SHALL BE VALVED.
11. VERTICAL STRAIGHT RUNS OR PVC DWV SHALL BE PROTECTED FROM EXPANSION AND CONTRACTION UTILIZING ONE OR MORE OF THE FOLLOWING METHODS:
    - PROVIDE A MINIMUM OF 24 INCHES, 45 DEGREE OFFSETS EVERY 30 FEET.
    - PROVIDE CERTIFIED AND LISTED EXPANSION FITTINGS AS MANUFACTURED BY CANPLAS INDUSTRIES, LTD., OR EQUAL, IN VERTICAL RUNS IN EXCESS OF 30 FEET PROVIDED THAT THEY ARE INSTALLED PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
12. WHEN WATER PIPE AND SEWERS ARE LAID PARALLEL TO EACH OTHER, ONE OF THE FOLLOWING PROCEDURES MUST BE FOLLOWED:
    - THE HORIZONTAL DISTANCE BETWEEN THE WATER PIPE AND SEWER SHALL NOT BE LESS THAN SIX (6) FEET. EACH LINE SHALL BE LAID IN A SEPARATE TRENCH OR THE SPACE IN BETWEEN FILLED WITH COMPACT FILL.
    - THE WATER SERVICE PIPE MAY BE PLACED IN THE TRENCH WITH THE BUILDING DRAIN AND/OR BUILDING SEWER, PROVIDED THE BOTTOM OF THE WATER SERVICE PIPE, AT ALL POINTS SHALL BE AT LEAST TWELVE (12) INCHES ABOVE THE TOP OF THE SEWER LINE, AND SHALL BE PLACED ON A SOLID SHELF EXCAVATED AT ONE SIDE OF THE COMMON TRENCH. SAID WATER SERVICE AND SEWER SHALL BE CONSTRUCTED OF MATERIALS APPROVED FOR USE WITHIN A BUILDING AND PRESSURE TESTED TO ASSURE WATER TIGHTNESS BEFORE BACKFILLING.
    - WATER SERVICE SHALL BE COPPER TO A MINIMUM 10'–0" OUTSIDE OF BUILDING FOR ELECTRICAL GROUNDING PURPOSES.

LOT 124 WATER CALCULATION

2015 IPC

FIXTURE NAME	NO.	F.U.	TOT.
WATER CLOSET (F.T.)	4	x 2.2 =	8.8
LAVATORY	4	x 0.7 =	2.8
KITCHEN SINK	1	x 1.4 =	1.4
DISHWASHER	1	x 1.4 =	1.4
CLOTHES WASHER	1	x 1.4 =	1.4
SHOWER	2	x 1.4 =	2.8
BATHTUB	1	x 1.4 =	1.4
TOTAL FIXTURE UNITS			20.0

20.0 FIXTURE UNITS = 19.6 GALLONS PER MINUTE (G.P.M.)

ADDITIONAL GPM	NO.	GPM	TOT.
HOSE BIBB	1	x 5 =	5
----------	0	x 0 =	0
TOTAL DESIGN GPM FOR TYPICAL UNITS			24.6

24.6 GPM DESIGN USE 1½" PIPE ENTRANCE

PIPE LENGTH TAP TO METER	30 FT.
PIPE LENGTH METER TO LAST FIXTURE	110 FT.
VERTICAL PIPE LENGTH TO HIGHEST FIXTURE	35 FT.
TOTAL PIPE LENGTH	145 FT.
FITTING LOSS (25%)	35 FT.
TOTAL DEVELOPED LENGTH	180 FT.

WATER PIPE SIZING CRITERIA

STREET PRESSURE (TO BE VERIFIED)	60.00 PSI
WATER METER LOSS (0" METER)	8.00 PSI
STATIC LOSS (35' x 0.43)	15.05 PSI
PRESSURE RESERVED FOR FIXTURES	25.00 PSI
PRESSURE AVAILABLE FOR PIPING	11.95 PSI

11.95 PSI / 180 FEET x 100 = 6.64 MAXIMUM PSI DROP ALLOWABLE PER 100 FEET PIPE LENGTH

COPPER BRANCH PIPE SIZING CHART FOR 6.64 PSI LOSS AND MAX VELOCITY OF 7 FPS

PIPE SIZE	G.P.M.	F.U.(TANK)	F.U.(F.V.)
1/2"	2	–	–
3/4"	6	3	–
1"	15	10	5
1–1/4"	25	35	9
1–1/2"	40	85	27
2"	70	225	130

LOT 133 WATER CALCULATION

2015 IPC

FIXTURE NAME	NO.	F.U.	TOT.
WATER CLOSET (F.T.)	4	x 2.2 =	8.8
LAVATORY	4	x 0.7 =	2.8
KITCHEN SINK	1	x 1.4 =	1.4
DISHWASHER	1	x 1.4 =	1.4
CLOTHES WASHER	1	x 1.4 =	1.4
SHOWER	2	x 1.4 =	2.8
BATHTUB	1	x 1.4 =	1.4
TOTAL FIXTURE UNITS			20.0

20.0 FIXTURE UNITS = 19.6 GALLONS PER MINUTE (G.P.M.)

ADDITIONAL GPM	NO.	GPM	TOT.
HOSE BIBB	1	x 5 =	5
----------	0	x 0 =	0
TOTAL DESIGN GPM FOR TYPICAL UNITS			24.6

24.6 GPM DESIGN USE 1½" PIPE ENTRANCE

PIPE LENGTH TAP TO METER	30 FT.
PIPE LENGTH METER TO LAST FIXTURE	110 FT.
VERTICAL PIPE LENGTH TO HIGHEST FIXTURE	35 FT.
TOTAL PIPE LENGTH	145 FT.
FITTING LOSS (25%)	35 FT.
TOTAL DEVELOPED LENGTH	180 FT.

WATER PIPE SIZING CRITERIA

STREET PRESSURE (TO BE VERIFIED)	60.00 PSI
WATER METER LOSS (0" METER)	8.00 PSI
STATIC LOSS (35' x 0.43)	15.05 PSI
PRESSURE RESERVED FOR FIXTURES	25.00 PSI
PRESSURE AVAILABLE FOR PIPING	11.95 PSI

11.95 PSI / 180 FEET x 100 = 6.64 MAXIMUM PSI DROP ALLOWABLE PER 100 FEET PIPE LENGTH

COPPER BRANCH PIPE SIZING CHART FOR 6.64 PSI LOSS AND MAX VELOCITY OF 7 FPS

PIPE SIZE	G.P.M.	F.U.(TANK)	F.U.(F.V.)
1/2"	2	–	–
3/4"	6	3	–
1"	15	10	5
1–1/4"	25	35	9
1–1/2"	40	85	27
2"	70	225	130

TYPICAL UNIT WATER CALCULATION

2015 IPC

FIXTURE NAME	NO.	F.U.	TOT.
WATER CLOSET (F.T.)	3	x 2.2 =	6.6
LAVATORY	3	x 0.7 =	2.1
KITCHEN SINK	1	x 1.4 =	1.4
DISHWASHER	1	x 1.4 =	1.4
CLOTHES WASHER	1	x 1.4 =	1.4
SHOWER	2	x 1.4 =	2.8
BATHTUB	1	x 1.4 =	1.4
TOTAL FIXTURE UNITS			17.1

17.1 FIXTURE UNITS = 18.5 GALLONS PER MINUTE (G.P.M.)

ADDITIONAL GPM	NO.	GPM	TOT.
HOSE BIBB	1	x 5 =	5
----------	0	x 0 =	0
TOTAL DESIGN GPM FOR TYPICAL UNITS			23.5

23.5 GPM DESIGN USE 1½" PIPE ENTRANCE

PIPE LENGTH TAP TO METER	30 FT.
PIPE LENGTH METER TO LAST FIXTURE	110 FT.
VERTICAL PIPE LENGTH TO HIGHEST FIXTURE	35 FT.
TOTAL PIPE LENGTH	145 FT.
FITTING LOSS (25%)	35 FT.
TOTAL DEVELOPED LENGTH	180 FT.

WATER PIPE SIZING CRITERIA

STREET PRESSURE (TO BE VERIFIED)	60.00 PSI
WATER METER LOSS (0" METER)	8.00 PSI
STATIC LOSS (35' x 0.43)	15.05 PSI
PRESSURE RESERVED FOR FIXTURES	25.00 PSI
PRESSURE AVAILABLE FOR PIPING	11.95 PSI

11.95 PSI / 180 FEET x 100 = 6.64 MAXIMUM PSI DROP ALLOWABLE PER 100 FEET PIPE LENGTH

COPPER BRANCH PIPE SIZING CHART FOR 6.64 PSI LOSS AND MAX VELOCITY OF 7 FPS

PIPE SIZE	G.P.M.	F.U.(TANK)	F.U.(F.V.)
1/2"	2	–	–
3/4"	6	3	–
1"	15	10	5
1–1/4"	25	35	9
1–1/2"	40	85	27
2"	70	225	130

PIPE AND FITTINGS

SERVICE	PIPE	FITTINGS
SANITARY DRAIN, WASTE AND VENT, AND RAINWATER INTERIOR, ABOVE AND BELOW GRADE	PVC SCH 40 DMV, SOLID CORE, PLAIN END, CONFORMING TO ASTM D2665	PVC SCH 40 DMV, SOLVENT WELDED WITH ASTM D2564 CEMENT. LO–V.O.C. CONTENT
SUB–SLAB AND FOUNDATION DRAINAGE PIPING	PVC SCH 40 DMV, PERFORATED, SOLID CORE, PLAIN END CONFORMING TO ASTM D2665	PVC SCH 40 DMV, SOLVENT WELDED WITH ASTM D2564 CEMENT. LO–V.O.C. CONTENT
WATER PIPING BELOW GRADE	TYPE "K" SOFT TEMPER COPPER TUBING	NO JOINTS PERMITTED BELOW FLOOR
WATER PIPING ABOVE GRADE AND IN EXPOSED AREAS	TYPE "L" HARD DRAWN COPPER	WROUGHT COPPER SOLDER TYPE CONFORMING TO ASME B16.22
WATER PIPING UNIT DISTRIBUTION IN CONCEALED LOCATIONS	PEX FLEXIBLE TUBING CONFORMING TO ASTM E84, E119, E814, F876, F877, AND F1960.	BRASS FITTINGS ASTM F1807, F877
RADON GAS VENT PIPING	PVC SCH 40 DMV, SOLID CORE, PLAIN END, CONFORMING TO ASTM D2665	PVC SCH 40 DMV, SOLVENT WELDED WITH ASTM D2564 CEMENT. LO–V.O.C. CONTENT

ALL ABOVE GROUND WATER PIPING, VALVES, FITTINGS AND ACCESSORIES SHALL BE INSULATED WITH ARMAFLEX 3/4"THICK (R5), AT A MINIMUM, CLOSED CELL FOAM INSULATION OR APPROVED EQUAL. ALL PIPING IN AREAS PRONE TO FREEZING SHALL BE PROVIDED WITH A HEAT TRACING SYSTEM, COORDINATE REQUIREMENTS AND INSTALLATION WITH ELECTRICAL CONTRACTORS.

PEX PIPING INSIDE WALLS, PROVIDE COPPER TUBING AND CHROME PLATED ANGLE STOPS EXITING WALLS AND IN EXPOSED AREAS.

PLUMBING FIXTURE CONNECTION SCHEDULE

MARK	DESCRIPTION	TRAP SIZE	WASTE	VENT	COLD WATER	HOT WATER	REMARKS
WC–1	WATER CLOSET TANK TYPE	INTEGRAL	3"	2"	1/2"	–	–
L–1	LAVATORY	1–1/2"	2"	1–1/2"	1/2"	1/2"	(COUNTER–TOP MOUNT)
L–2	LAVATORY	1–1/2"	2"	1–1/2"	1/2"	1/2"	(WALL MOUNT)
KS	KITCHEN SINK	1–1/2"	2"	1–1/2"	1/2"	1/2"	–
SK	SINK	1–1/2"	2"	1–1/2"	1/2"	1/2"	–
SHR	SHOWER	2"	2"	1–1/2"	3/4"	3/4"	–
BT	BATHTUB	2"	2"	1–1/2"	3/4"	3/4"	–
FD–1	FLOOR DRAIN	2" – 4"	2" – 4"	1–1/2" – 2"	–	–	SEE FLOOR PLAN FOR SIZES
FS–1	FLOOR SINK	2" – 4"	2" – 4"	1–1/2" – 2"	–	–	SEE FLOOR PLAN FOR SIZES
RVB	REFRIGERATOR VALVE BOX	–	–	–	1/2"	–	W/ HAMMER ARRESTOR
WB	WASHING MACHINE BOX	–	–	–	3/4"	3/4"	W/ HAMMER ARRESTOR
HB	HOSE BIBB	–	–	–	3/4"	–	W/ VACUUM BREAKER

PLUMBING FIXTURE SCHEDULE

WC–1	FLUSH TANK WATER CLOSET: SEE ARCHITECTURAL DRAWINGS FOR PLUMBING FIXTURE SPECIFICATIONS.
L–1	COUNTERTOP LAVATORY: SEE ARCHITECTURAL DRAWINGS FOR PLUMBING FIXTURE SPECIFICATIONS.
L–2	WALL HUNG LAVATORY: SEE ARCHITECTURAL DRAWINGS FOR PLUMBING FIXTURE SPECIFICATIONS.
KS	KITCHEN SINK: SEE ARCHITECTURAL DRAWINGS FOR PLUMBING FIXTURE SPECIFICATIONS.
D	DISPOSER: SEE ARCHITECTURAL DRAWINGS FOR PLUMBING FIXTURE SPECIFICATIONS.
SHR	SHOWER: SEE ARCHITECTURAL DRAWINGS FOR PLUMBING FIXTURE SPECIFICATIONS.
BT	BATHTUB: SEE ARCHITECTURAL DRAWINGS FOR PLUMBING FIXTURE SPECIFICATIONS.
LT	LAUNDRY TUB: SEE ARCHITECTURAL DRAWINGS FOR PLUMBING FIXTURE SPECIFICATIONS.
FD–1	FLOOR DRAIN: WATTS DRAINAGE FD–100–A5 CAST IRON TWO PIECE DRAINS WITH EPOXY COATED CAST IRON BODY AND COMPRESSION SEAL OUTLET. PROVIDE WITH 5"ROUND ADJUSTABLE NICKEL BRONZE STRAINER. WHERE INSTALLED IN SURFACES HAVING WATERPROOFING MEMBRANE, PROVIDE DRAINS WITH NON–PUNCTURING FLASHING CLAMP DEVICE AND ANCHORING FLANGE. SEE PLANS FOR SIZES. PROVIDE PROVENT'S TRAP GUARD
FS–1	FLOOR SINK: WATTS DRAINAGE FS–730–1 12" X 12" X 6" CAST IRON ENAMELED FLOOR SINK WITH NICKEL BRONZE RIM & GRATE AND ALUMINUM DOME BOTTOM STRAINER. SEE PLANS FOR SIZES. PROVIDE 1/2 OR 3/4 GRATE AS REQUIRED. PROVIDE PROVENT'S TRAP GUARD
HB–1	HYDRANT (FREEZELESS): WATTS DRAINAGE HY–500–VB CONCEALED NON–FREEZE DECK HYDRANT COMPLETE WITH NICKEL BRONZE BOX AND DOOR, BRONZE CASING, BRONZE INTERNAL WORKING PARTS, LOOSE KEY OPERATION AND VACUUM BREAKER. COMPLIES WITH ASSE 1019–2004, UPC/IAPMO LISTED. MAXIMUM OPERATING PRESSURE 125 PSI. VERIFY BURY DEPTH WITH ARCHITECT.
RVB	REFRIGERATOR VALVE BOX: OATEY 39152 6" X 6" X 3–3/8" DEEP PLASTIC REFRIGERATOR VALVE BOX WITH LOW LEAD 1/4 TURN BRASS BALL VALVE – COPPER SWEAT CONNECTION.
WB	WASHER MACHINE OUTLET BOX: OATEY CENTRO II 8" X 4–3/4" X 3" DEEP PLASTIC WASHING MACHINE OUTLET BOX WITH 1/4 TURN BRASS BALL VALVES WITH WATER HAMMER ARRESTORS – COPPER SWEAT CONNECTION.
DS–1	DOWNSPOUT: WATTS RD–940 CAST NICKEL BRONZE DOWNSPOUT NOZZLE WITH ANCHOR FLANGE, COUNTERSUNK HOLES AND NO HUB CONNECTION. PROVIDE SAME DIAMETER AS STORM PIPING SHOWN ON PLANS.
RD	ROOF DRAIN: WATTS RD–250 EPOXY COATED CAST IRON BODY WITH DECK FLANGE, FLASHING CLAMPS WITH INTEGRAL GRAVEL GUARD, OVERFLOW STANDPIPE SELF LOCKING CAST IRON DOME AND NO–HUB OUTLETS. SEE PLANS FOR SIZES.

FIXTURE FLOW REQUIREMENTS

ALL PLUMBING FIXTURES SHALL HAVE FLOW REDUCERS OR BE SO CONSTRUCTED TO MEET THE FOLLOWING REQUIREMENTS BASED ON 2015 NATIONAL GREEN BUILDING STANDARD:

WATER CLOSET (TANK TYPE)	1.28 GALLONS PER FLUSH
SHOWER HEADS	LESS THAN 2.5 GPM AT 80 PSI
LAVATORY FAUCETS	1.5 GPM AT 60 PSI
KITCHEN SINK FAUCETS	2.2 GPM AT 80 PSI

CIRCULATION PUMP SCHEDULE

MARK	MANUFACTURER	MODEL	G.P.M.	FT.HD.	H.P.	V./PH.	REMARKS
CP–1	BELL & GOSSETT	NBF–36	4	22	FRAC.	120V,1ø	3/4" FLANGE, ALL BRONZE 2–SPEED

EXPANSION TANK SCHEDULE

MARK	MANUFACTURER	MODEL	GALLON	REMARKS
ET–1	AMTROL	ST–8	3.2	THERMAL EXPANSION TANK, 9" DIA. x 15" HIGH

ELECTRIC WATER HEATER SCHEDULE

MARK	MODEL	TYPE	STOR. CAP.	ELECTRICAL KW	VOLTS	PHASE	HZ	TEMP. RISE	FINAL TEMP.	RECOVERY G.P.H.	REMARKS
WH–1	AO SMITH PXNT–55	DOMESTIC HOT WATER	55 GAL	5.5	–	–	60	100	120	30	–

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PROFESSIONAL ENGINEER — NO. 8795 — MARK J. PETERSON — STATE OF UTAH

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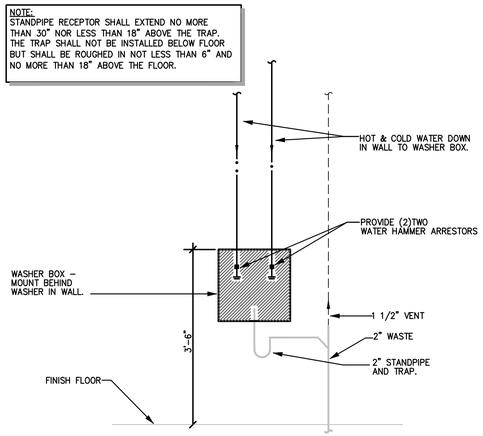
P0.1

PLUMBING NOTES, LEGENDS AND SCHEDULES

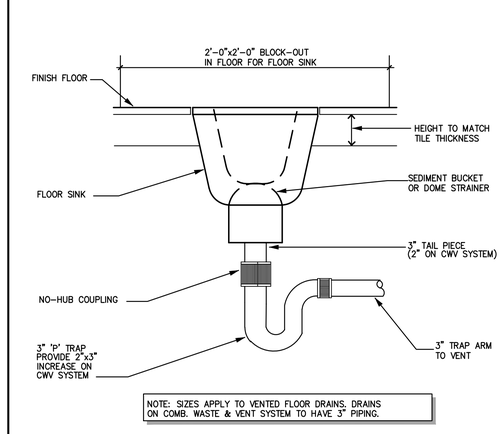
NO SCALE
scale

PERMIT
phase / rev

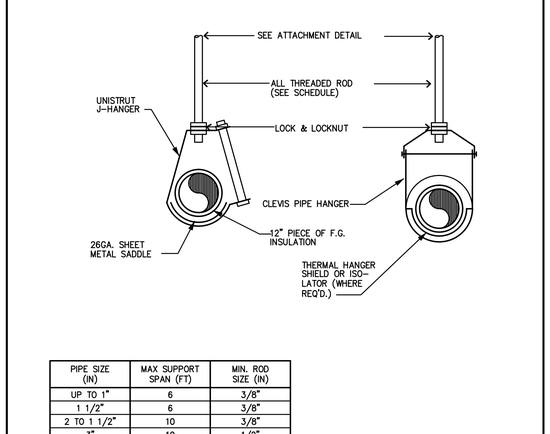
2017.06.01
date



WASHER BOX INSTALLATION NTS

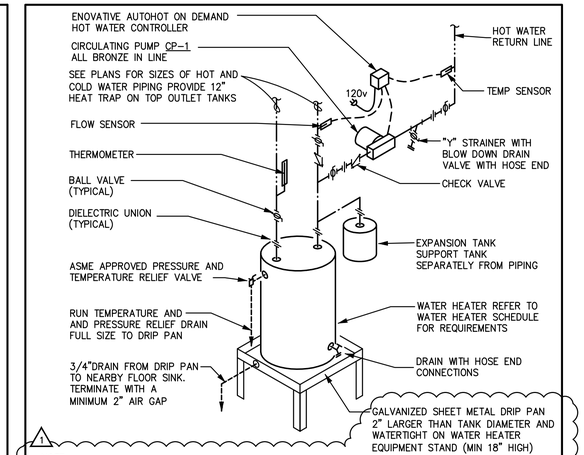


FLOOR SINK NTS

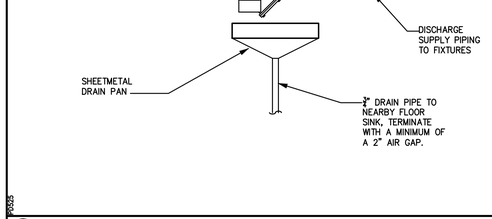


PIPE SIZE (IN)	MAX SUPPORT SPAN (FT)	MIN. ROD SIZE (IN)
UP TO 1"	6	3/8"
1 1/2"	6	3/8"
2 TO 1 1/2"	10	3/8"
3"	10	1/2"
3 1/2"	9	1/2"
4"	7	1/2"

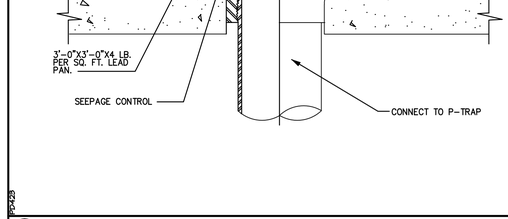
SINGLE PIPE HANGERS NTS



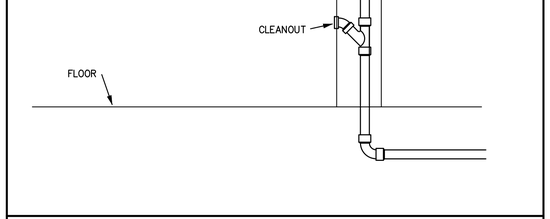
ELECTRIC WATER HEATER NTS



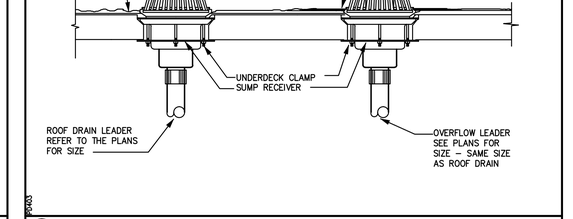
REDUCED PRESSURE BACKFLOW PREVENTER NTS



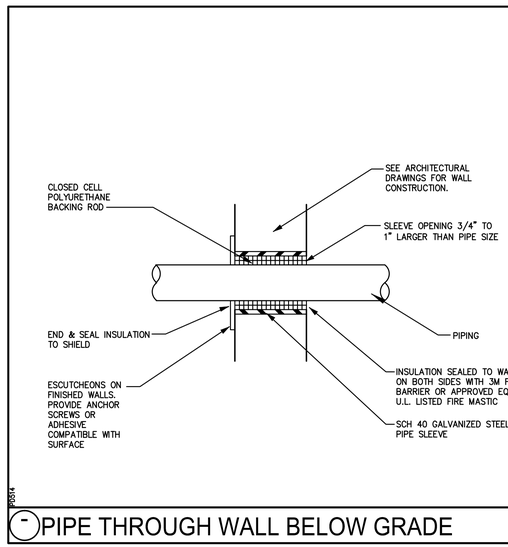
FLOOR DRAIN NTS



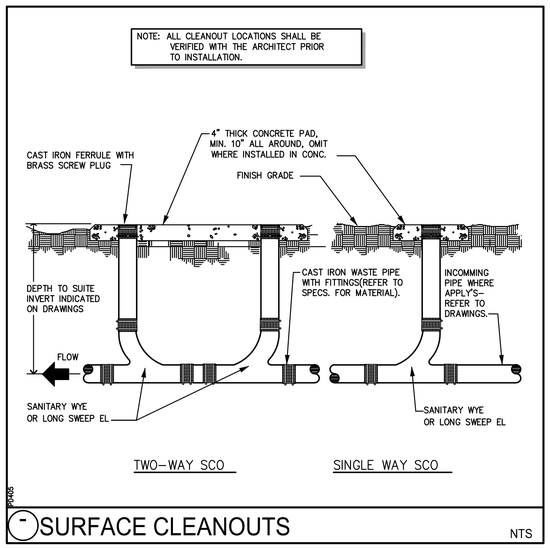
VENT DETAIL NTS



ROOF & OVERFLOW DRAINS NTS



PIPE THROUGH WALL BELOW GRADE NTS



SURFACE CLEANOUTS NTS

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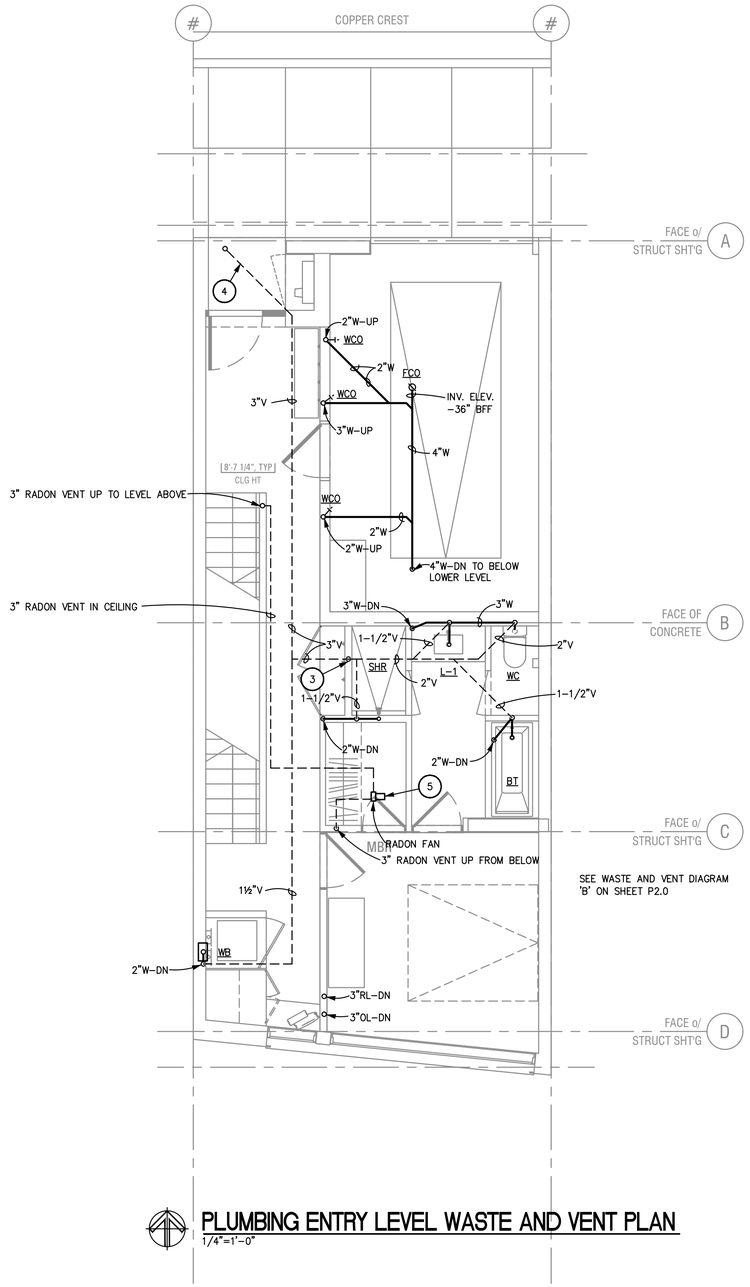
P0.2
PLUMBING DETAILS

NO SCALE
scale

1
PERMIT SET
phase / rev

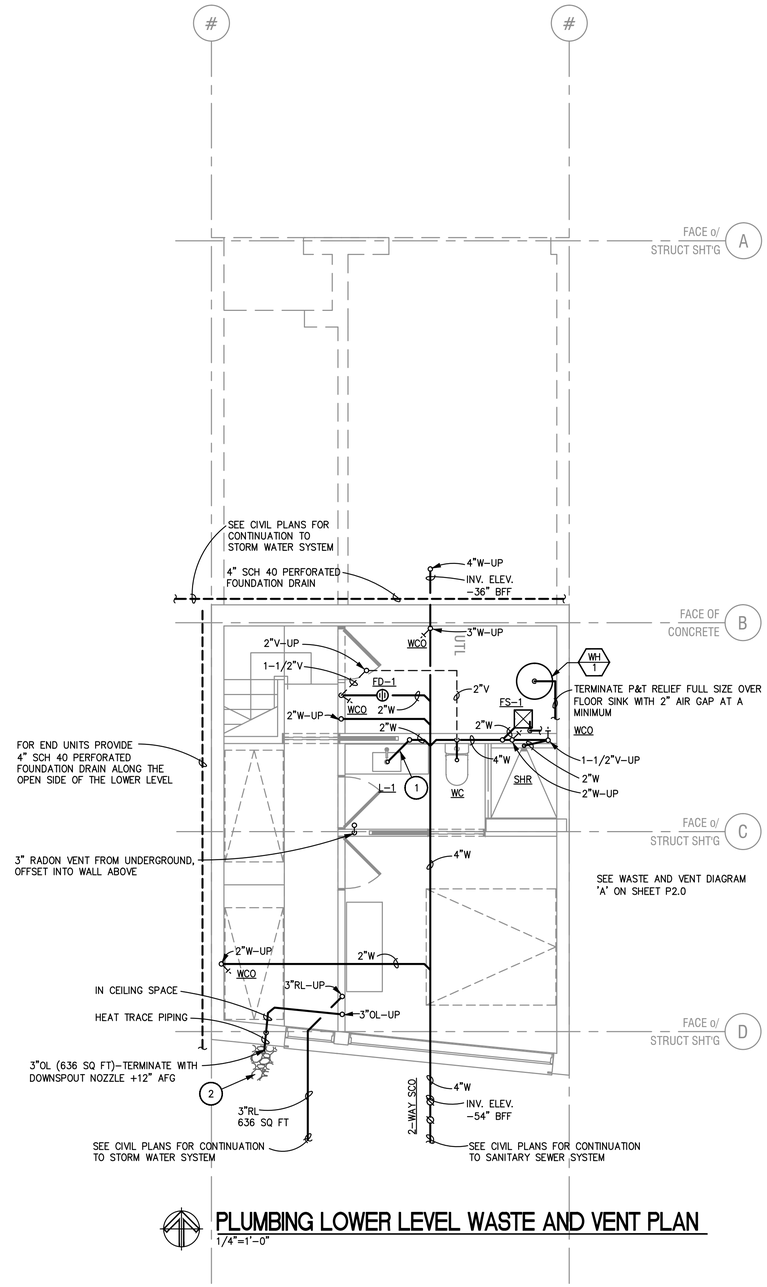
2017.06.01
date



PLUMBING ENTRY LEVEL WASTE AND VENT PLAN

1/4"=1'-0"

ENTRY LEVEL



PLUMBING LOWER LEVEL WASTE AND VENT PLAN

1/4"=1'-0"

LOWER LEVEL

KEYED NOTES:

1. COORDINATE P-TRAP UNDER LAVATORY AND WASTE WITH VENT PIPE IN WALL WITH POCKET DOOR CONSTRUCTION.
2. PROVIDE 4"-6" SIZE RIPRAP, COLOR TO BE SELECTED BY ARCHITECT, UNDER DOWNSPOUT NOZZLE. EXTEND A MINIMUM OF 18" AWAY FROM BUILDING EDGE.
3. 2"V UP FROM FLOOR BELOW. CONNECT INTO 2"V ON THIS FLOOR IN CEILING AREA.
4. 3"V UP INTO STRUCTURE ABOVE, OFFSET INTO CORNER OF BUILDING.
5. PROVIDE CEILING ACCESS TO RADON FAN, COORDINATE WITH ALL OTHER TRADES. SEE MECHANICAL DRAWINGS FOR FAN AND TESTING REQUIREMENTS.

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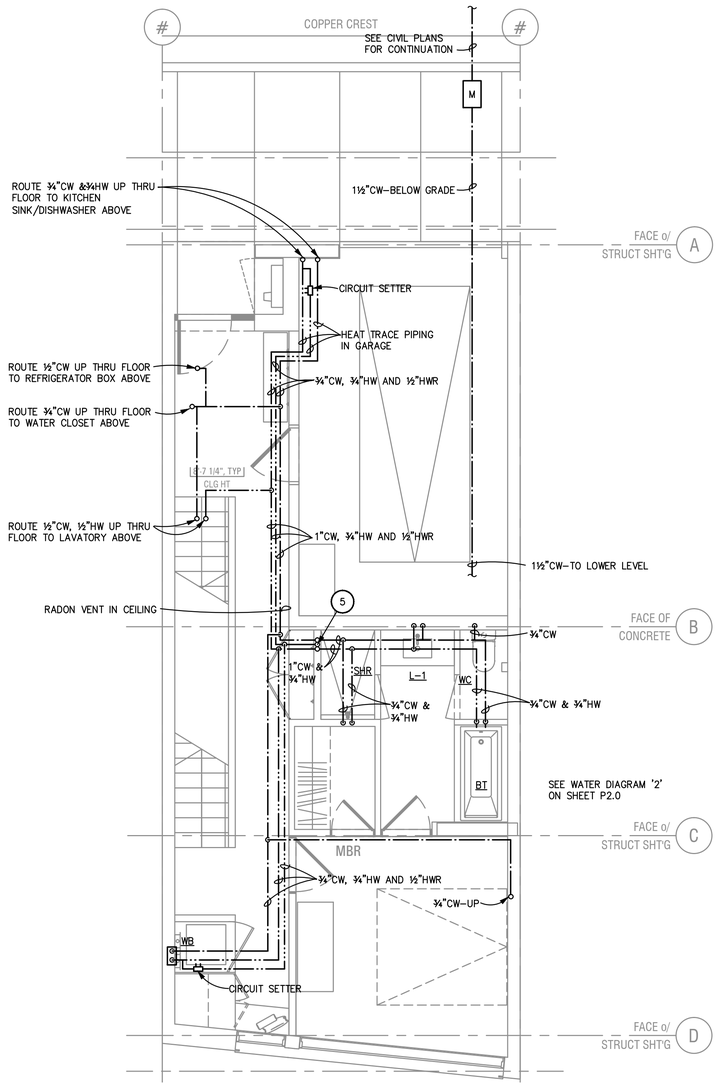
P1.0

TYPICAL UNIT ENTRY AND LOWER LEVEL FLOOR PLANS

1/4" = 1'-0"
scale

PERMIT
phase / rev

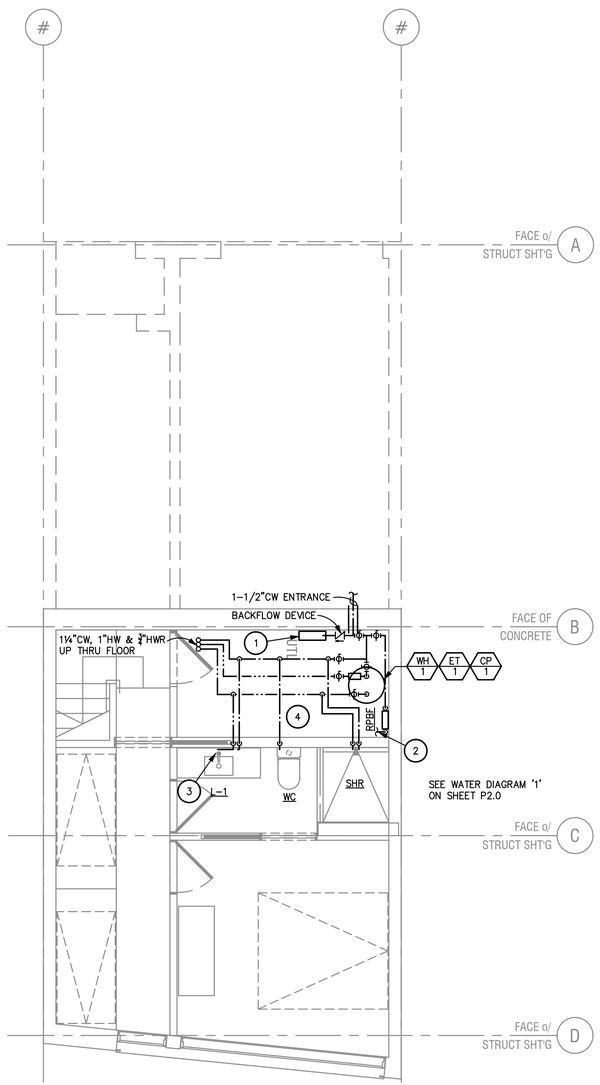
2017.06.01
date



PLUMBING ENTRY LEVEL WATER PLAN

1/4"=1'–0"

ENTRY LEVEL



PLUMBING LOWER LEVEL WATER PLAN

1/4"=1'–0"

LOWER LEVEL

KEYED NOTES:

1. RESIDENTIAL FIRE RISER MANIFOLD.
2. 1"WATER MAKE–UP TO UNDER FLOOR HEATING SYSTEMS. SEE MECHANICAL DRAWINGS FOR MORE INFORMATION.
3. COORDINATE THE PLACEMENT OF THE ANGLE VALVES AND ROUTING OF SUPPLIES TO THE LAVATORY WITH THE POCKET DOOR CONSTRUCTION.
4. COORDINATE LOCATION OF PIPES AND ACCESSORIES WITH ALL OTHER TRADES IN THE UTILITY ROOM.
5. 1–1/4"CW, 1"HW AND ¾"HWR UP FROM LEVEL BELOW.

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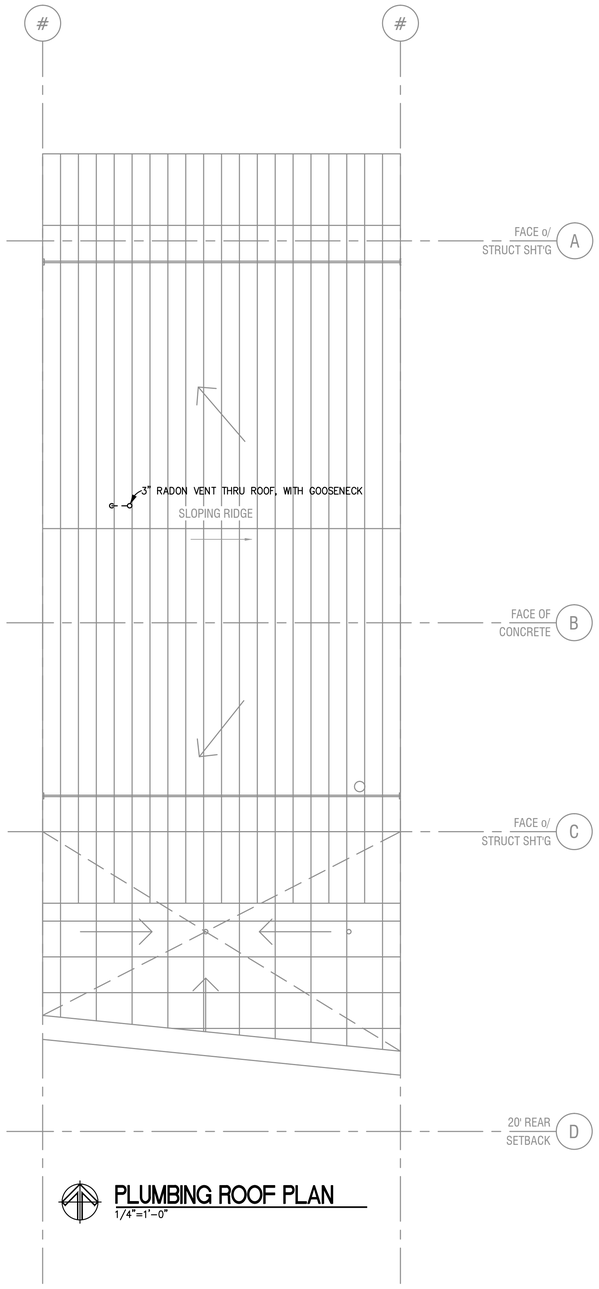
P1.1

TYPICAL UNIT ENTRY AND LOWER LEVEL FLOOR PLANS

1/4" = 1'-0"
scale

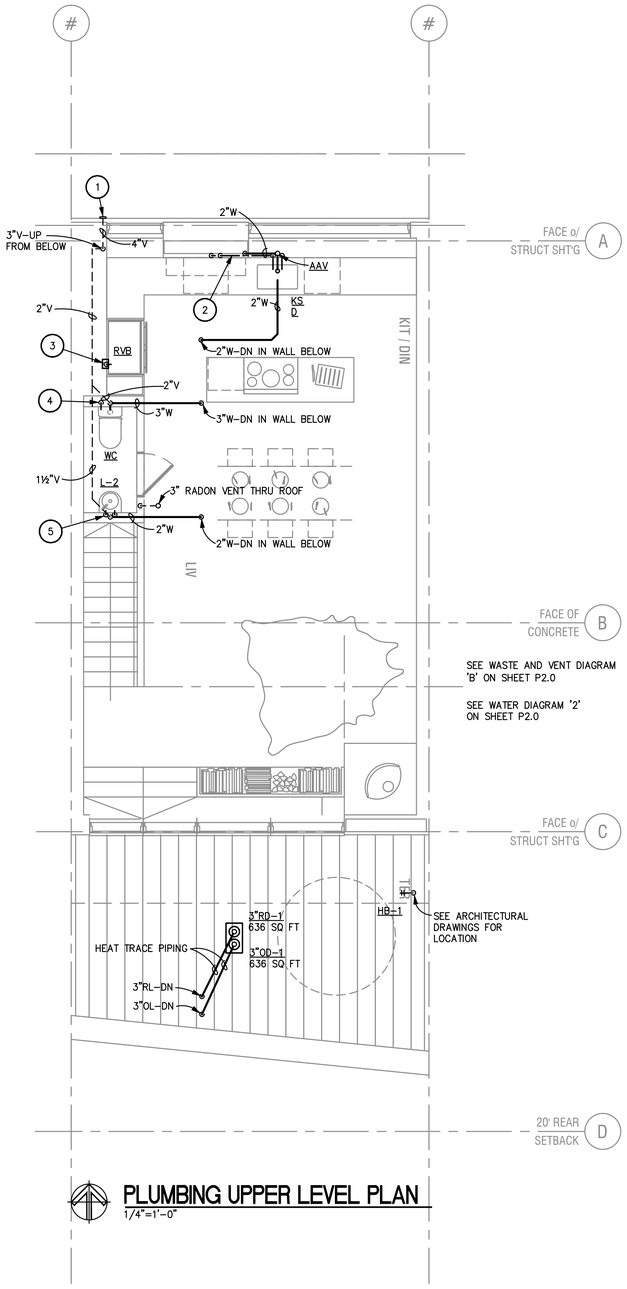
PERMIT
phase / rev

2017.06.01
date



PLUMBING ROOF PLAN
1/4"=1'-0"

ROOF PLAN



PLUMBING UPPER LEVEL PLAN
1/4"=1'-0"

UPPER LEVEL

KEYED NOTES:

1. 4" VENT TERMINATION IN FACE OF BUILDING. COORDINATE LOCATION WITH ALL OTHER TRADES.
2. ROUTE ¾"CW AND ¾"HW TO KITCHEN SINK FAUCET AND DISHWASHER.
3. ½"CW UP THRU FLOOR, CONNECT TO REFRIGERATOR VALVE BOX.
4. ¾"CW UP THRU FLOOR, CONNECT TO WATER CLOSET.
5. ½"CW AND ½"HW UP THRU FLOOR, CONNECT TO LAVATORY FAUCET.

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P1.2
TYPICAL UNIT
UPPER LEVEL AND
ROOF PLAN

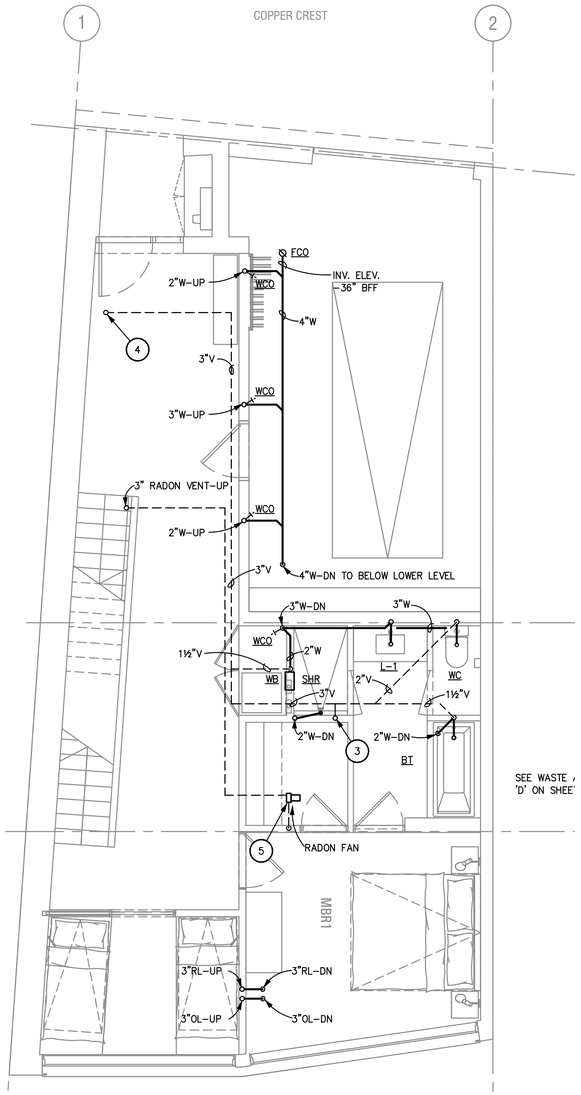
1/4" = 1'-0"
scale

PERMIT
phase / rev

2017.06.01
date

KEYED NOTES:

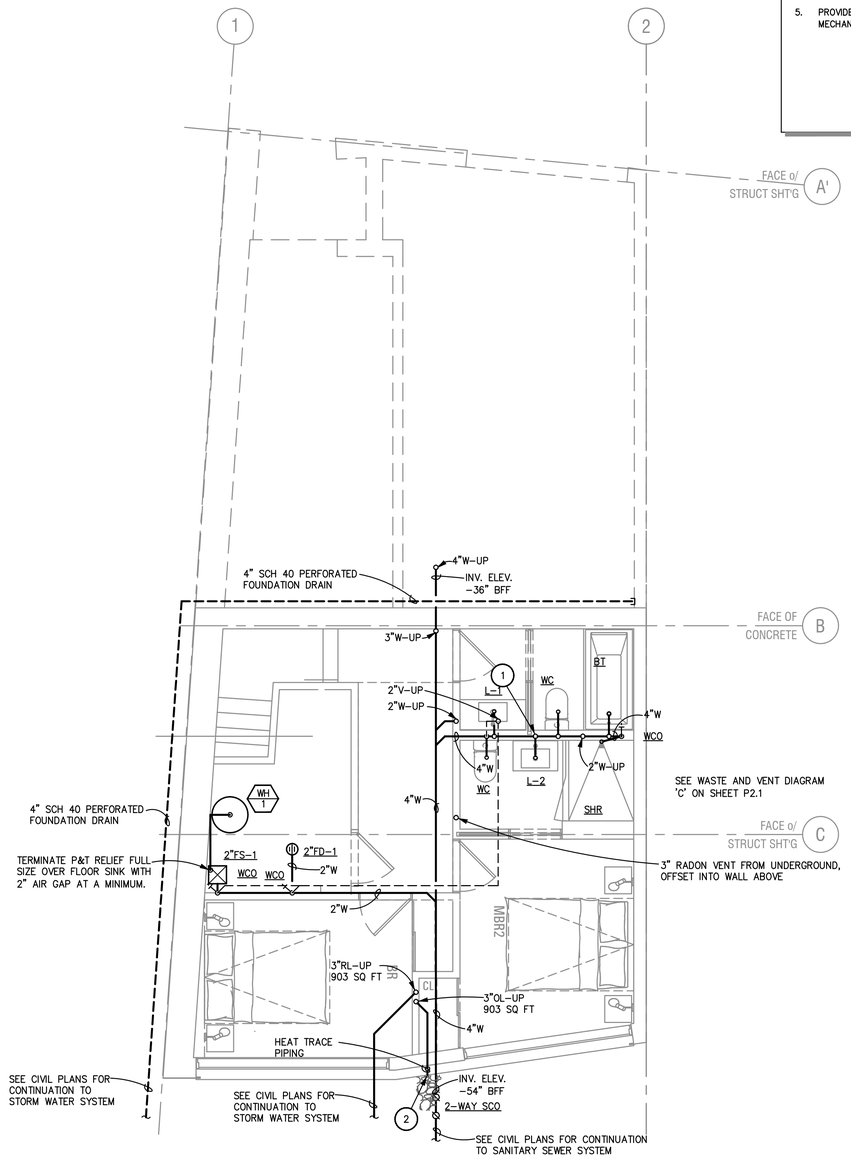
1. COORDINATE P-TRAP UNDER LAVATORY AND WASTE WITH VENT PIPE IN WALL WITH POCKET DOOR CONSTRUCTION.
2. PROVIDE 4"-6" SIZE RIPRAP, COLOR TO BE SELECTED BY ARCHITECT, UNDER DOWNSPOUT NOZZLE. EXTEND A MINIMUM OF 18" AWAY FROM BUILDING EDGE.
3. 2"V UP FROM FLOOR BELOW. CONNECT INTO 2"V ON THIS FLOOR IN CEILING AREA.
4. 3"V UP INTO STRUCTURE ABOVE, OFFSET INTO CORNER OF BUILDING.
5. PROVIDE CEILING ACCESS TO RADON FAN, COORDINATE WITH ALL OTHER TRADES. SEE MECHANICAL DRAWINGS FOR FAN AND TESTING REQUIREMENTS.



PLUMBING ENTRY LEVEL WASTE AND VENT PLAN

1/4"=1'-0"

SEE OPTION BELOW



PLUMBING LOWER LEVEL WASTE AND VENT PLAN

1/4"=1'-0"

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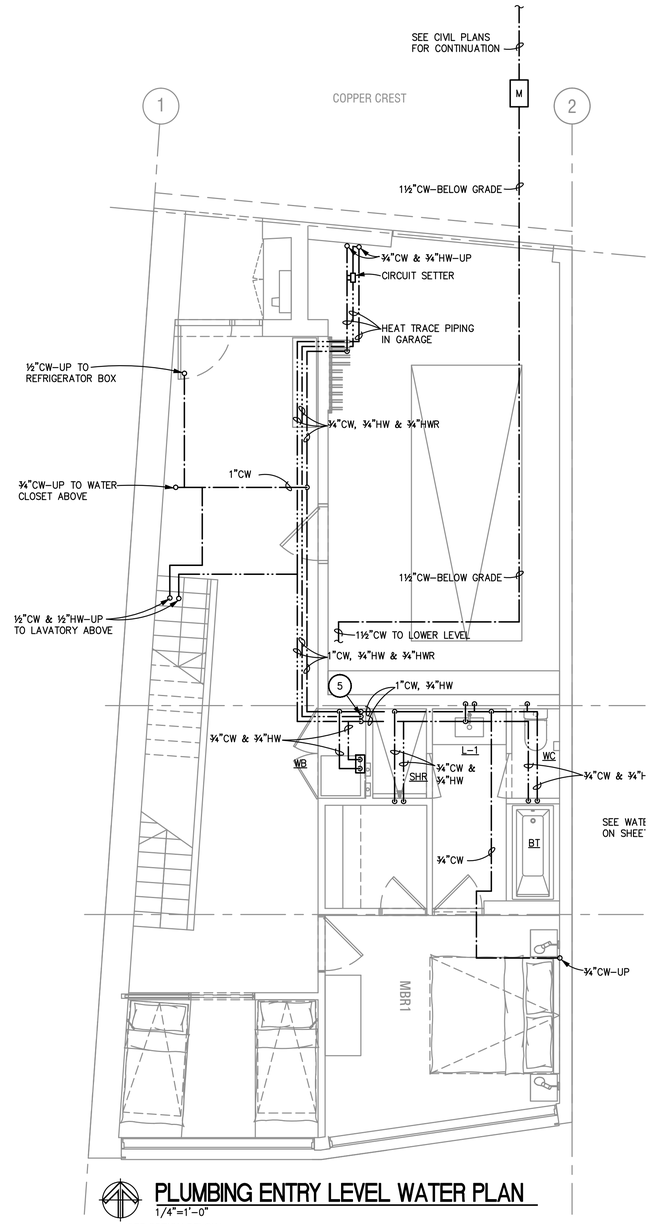
P1.3

LOT 124 ENTRY AND LOWER LEVEL FLOOR PLANS

1/4" = 1'-0"
scale

PERMIT
phase / rev

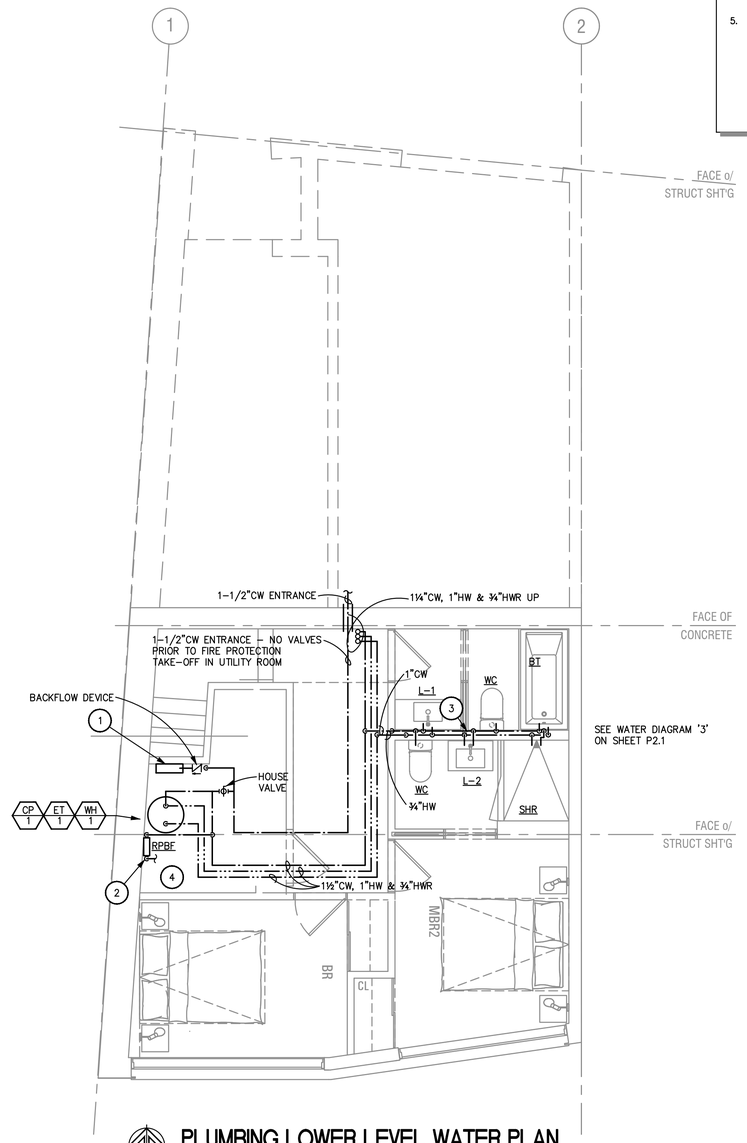
2017.06.01
date



PLUMBING ENTRY LEVEL WATER PLAN

1/4"=1'–0"

SEE OPTION BELOW



PLUMBING LOWER LEVEL WATER PLAN

1/4"=1'–0"

KEYED NOTES:

1. RESIDENTIAL FIRE RISER MANIFOLD.
2. 1"WATER MAKE–UP TO UNDER FLOOR HEATING SYSTEMS. SEE MECHANICAL DRAWINGS FOR MORE INFORMATION.
3. COORDINATE THE PLACEMENT OF THE ANGLE VALVES AND ROUTING OF SUPPLIES TO THE LAVATORY WITH THE POCKET DOOR CONSTRUCTION.
4. COORDINATE LOCATION OF PIPES AND ACCESSORIES WITH ALL OTHER TRADES IN THE UTILITY ROOM.
5. 1–1/4"CW, 1"HW AND ¾"HWR UP FROM LEVEL BELOW.

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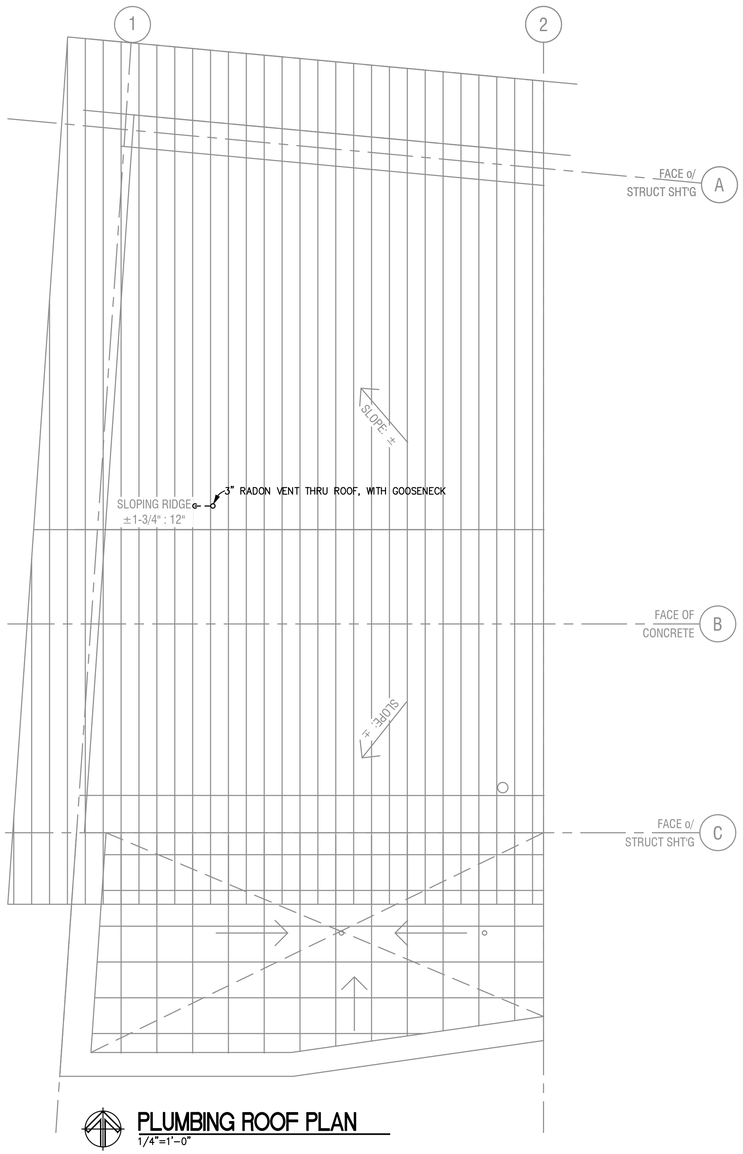
P1.4

LOT 124 ENTRY AND LOWER LEVEL FLOOR PLANS

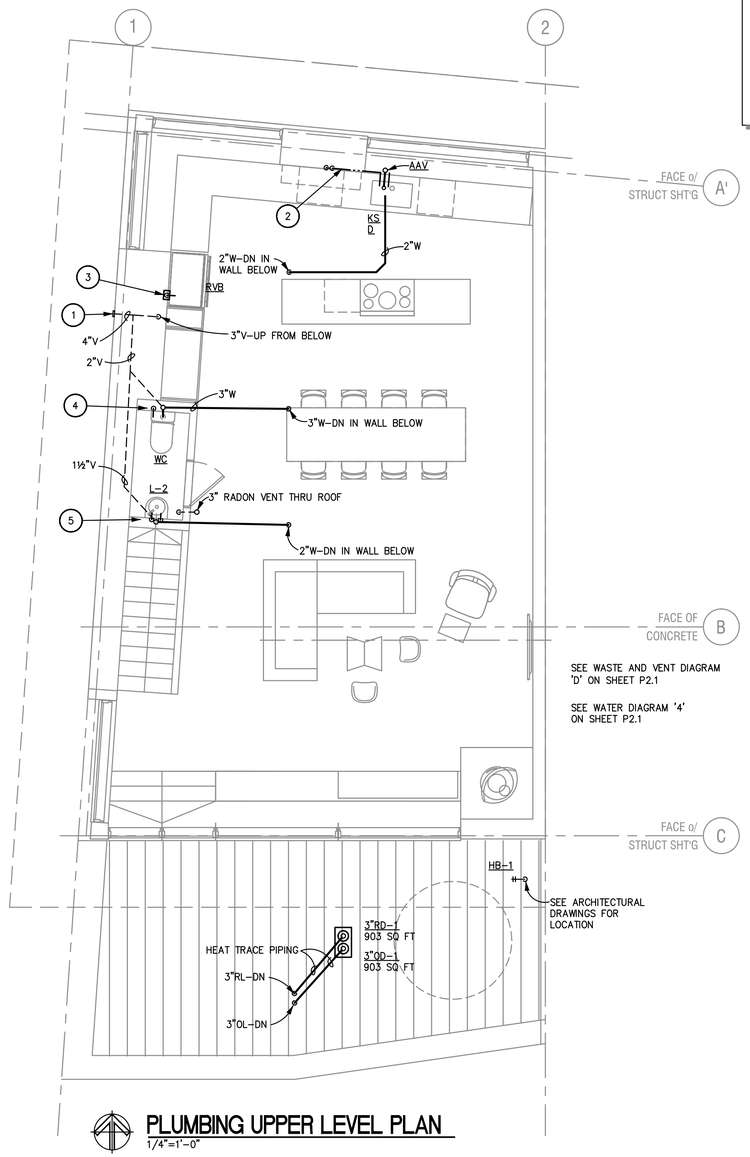
1/4" = 1'-0"
scale

PERMIT
phase / rev

2017.06.01
date



PLUMBING ROOF PLAN
1/4"=1'-0"



PLUMBING UPPER LEVEL PLAN
1/4"=1'-0"

KEYED NOTES:

1. 4" VENT TERMINATION IN FACE OF BUILDING. COORDINATE LOCATION WITH ALL OTHER TRADES.
2. ROUTE ¾"CW AND ¾"HW TO KITCHEN SINK FAUCET AND DISHWASHER.
3. ½"CW UP THRU FLOOR, CONNECT TO REFRIGERATOR VALVE BOX.
4. ¾"CW UP THRU FLOOR, CONNECT TO WATER CLOSET.
5. ½"CW AND ½"HW UP THRU FLOOR, CONNECT TO LAVATORY FAUCET.

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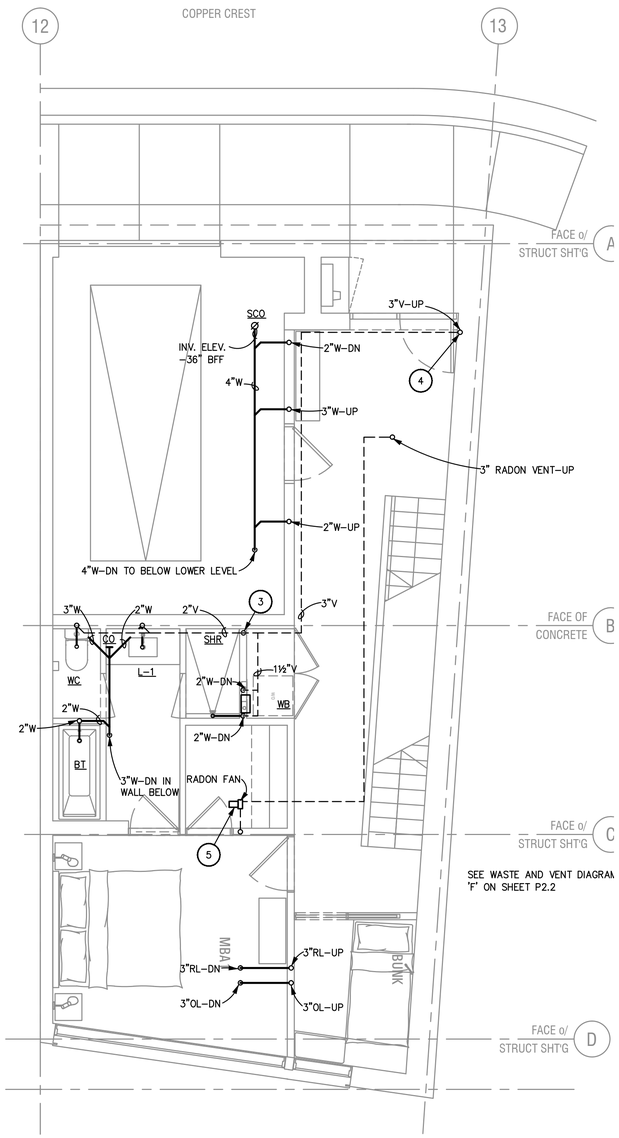
P1.5
LOT 124 UPPER LEVEL AND ROOF PLANS

1/4" = 1'-0"
scale

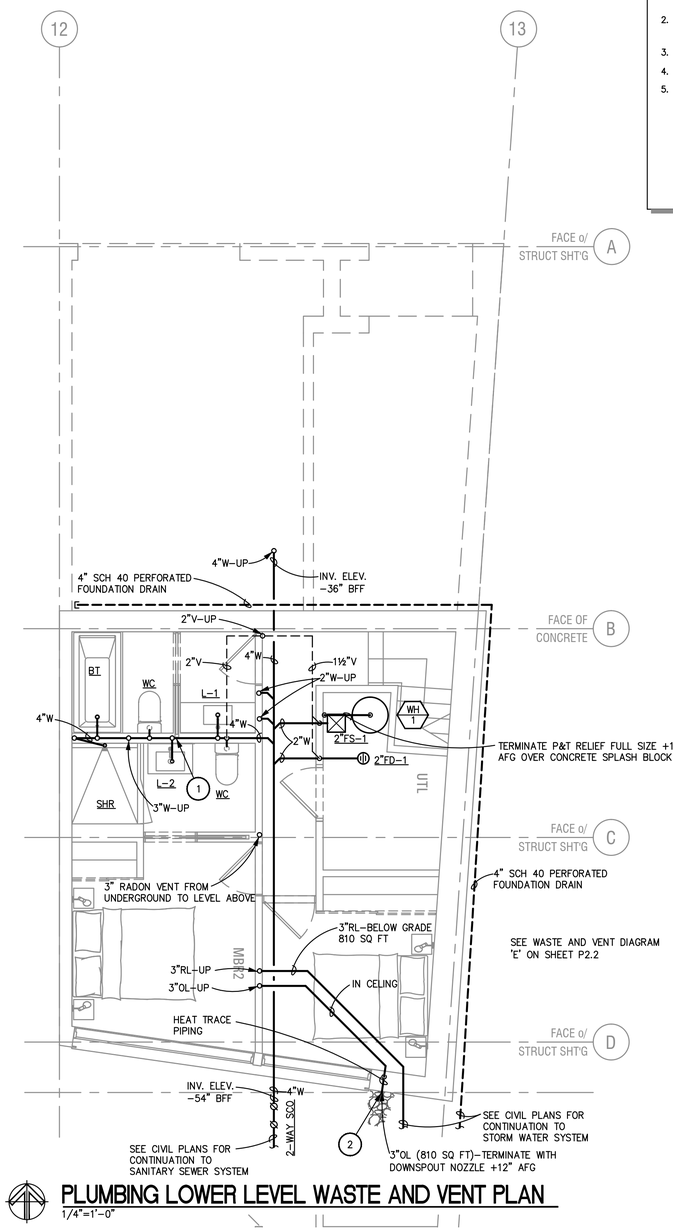
PERMIT
phase / rev

2017.06.01
date



PLUMBING ENTRY LEVEL WASTE AND VENT PLAN

1/4"=1'-0"



PLUMBING LOWER LEVEL WASTE AND VENT PLAN

1/4"=1'-0"

KEYED NOTES:

1. COORDINATE P-TRAP UNDER LAVATORY AND WASTE WITH VENT PIPE IN WALL WITH POCKET DOOR CONSTRUCTION.
2. PROVIDE 4"-6" SIZE RIPRAP, COLOR TO BE SELECTED BY ARCHITECT, UNDER DOWNSPOUT NOZZLE. EXTEND A MINIMUM OF 18" AWAY FROM BUILDING EDGE.
3. 2"V UP FROM FLOOR BELOW. CONNECT INTO 2"V ON THIS FLOOR IN CEILING AREA.
4. 3"V UP INTO STRUCTURE ABOVE, OFFSET INTO CORNER OF BUILDING.
5. PROVIDE CEILING ACCESS TO RADON FAN, COORDINATE WITH ALL OTHER TRADES. SEE MECHANICAL DRAWINGS FOR FAN AND TESTING REQUIREMENTS.

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P1.6

LOT 133 ENTRY AND LOWER LEVEL FLOOR PLANS

1/4" = 1'-0"
scale

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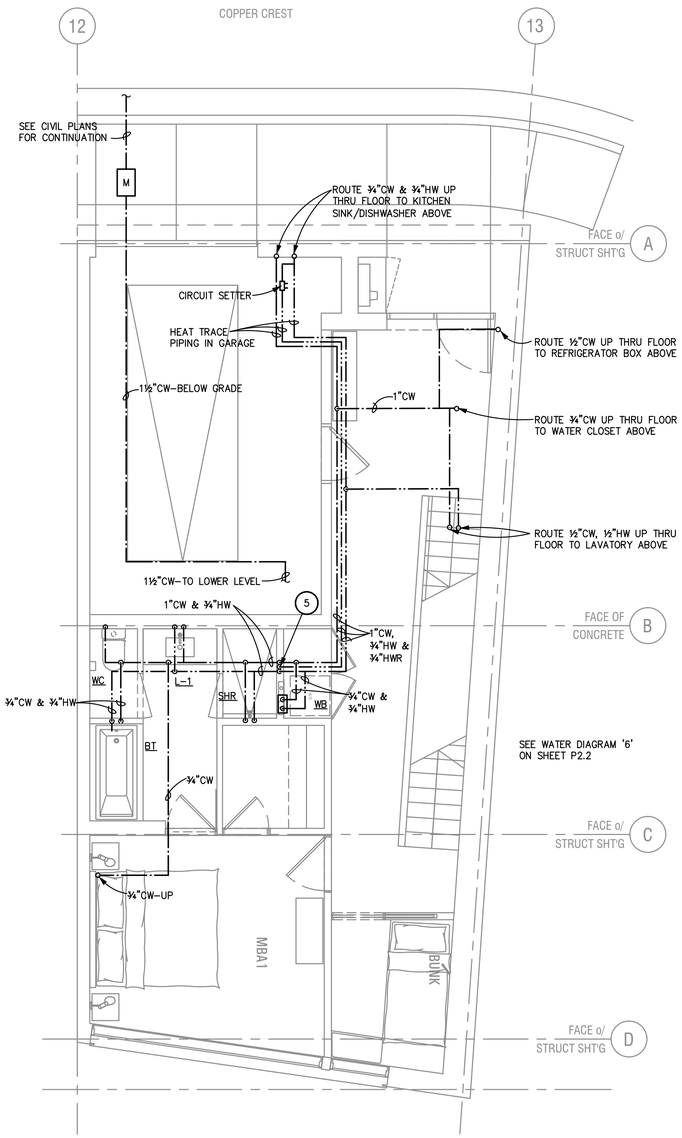
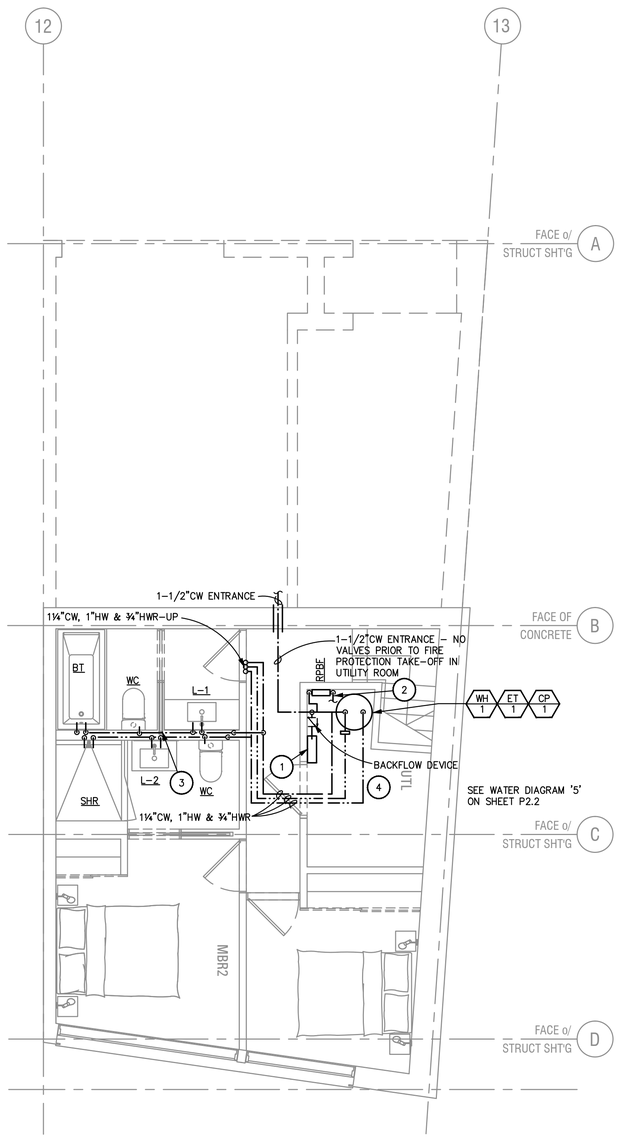


PLUMBING ENTRY LEVEL WATER PLAN

1/4"=1'–0"



PLUMBING LOWER LEVEL WATER PLAN

1/4"=1'–0"

KEYED NOTES:

1. RESIDENTIAL FIRE RISER MANIFOLD.
2. 1"WATER MAKE–UP TO UNDER FLOOR HEATING SYSTEMS. SEE MECHANICAL DRAWINGS FOR MORE INFORMATION.
3. COORDINATE THE PLACEMENT OF THE ANGLE VALVES AND ROUTING OF SUPPLIES TO THE LAVATORY WITH THE POCKET DOOR CONSTRUCTION.
4. COORDINATE LOCATION OF PIPES AND ACCESSORIES WITH ALL OTHER TRADES IN THE UTILITY ROOM.
5. 1–1/4"CW, 1"HW AND ¾"HWR UP FROM LEVEL BELOW.

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P1.7

LOT 133 ENTRY AND LOWER LEVEL FLOOR PLANS

1/4" = 1'-0"
scale

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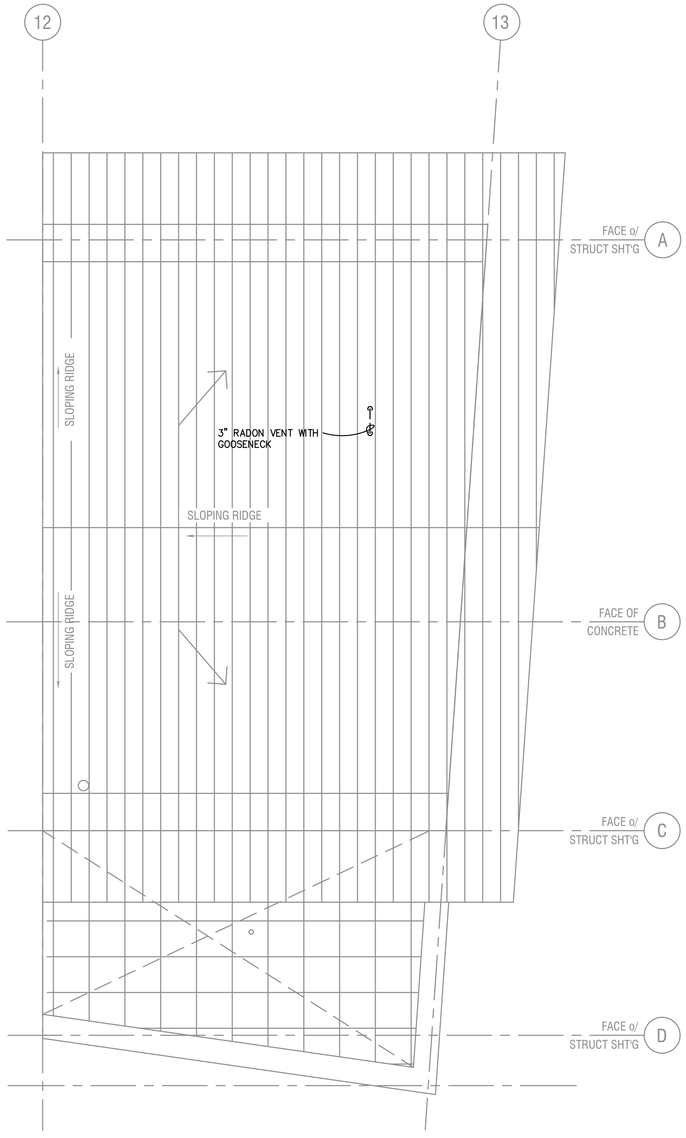
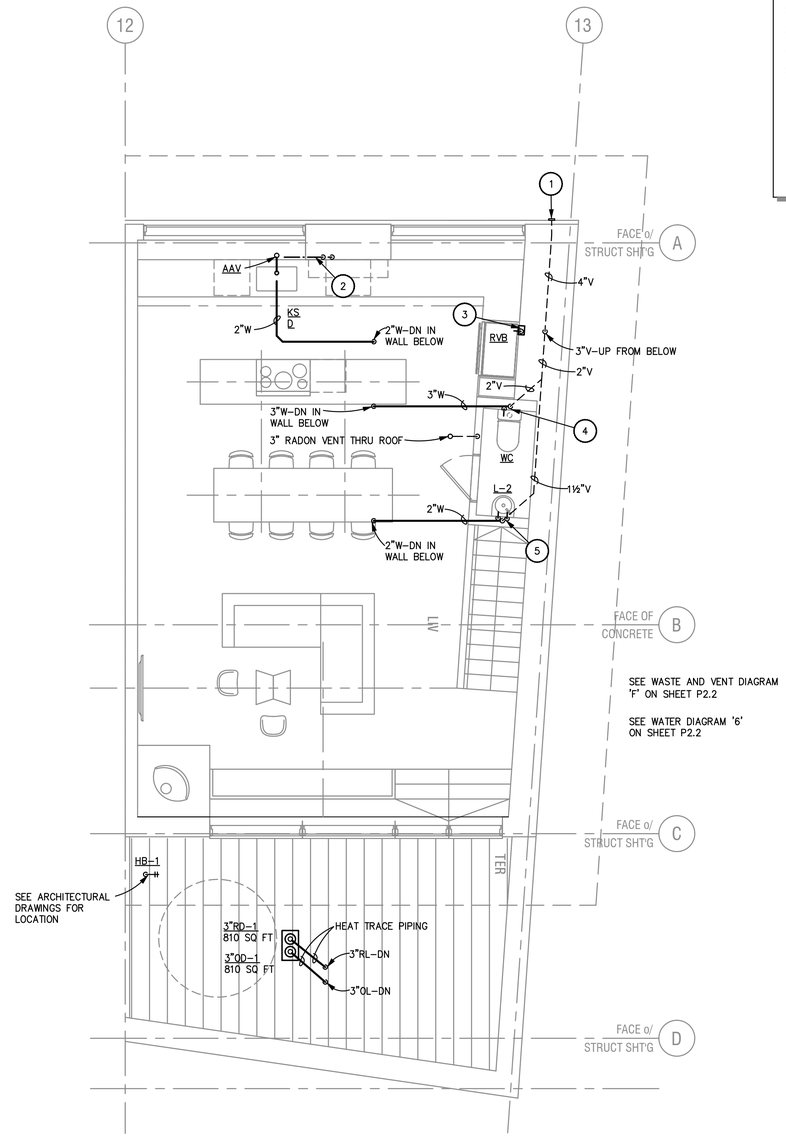
date



PLUMBING ROOF PLAN
1/4"=1'-0"



PLUMBING UPPER LEVEL PLAN
1/4"=1'-0"

KEYED NOTES:

1. 4" VENT TERMINATION IN FACE OF BUILDING. COORDINATE LOCATION WITH ALL OTHER TRADES.
2. ROUTE ¾"CW AND ¾"HW TO KITCHEN SINK FAUCET AND DISHWASHER.
3. ½"CW UP THRU FLOOR, CONNECT TO REFRIGERATOR VALVE BOX.
4. ¾"CW UP THRU FLOOR, CONNECT TO WATER CLOSET.
5. ½"CW AND ½"HW UP THRU FLOOR, CONNECT TO LAVATORY FAUCET.

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P1.8
LOT 133 UPPER LEVEL AND ROOF PLANS

1/4" = 1'-0"
scale

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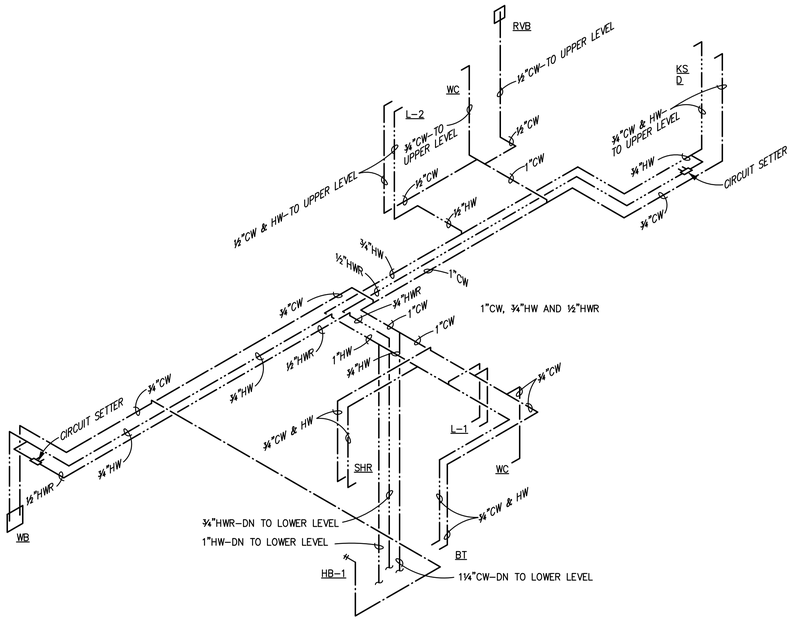
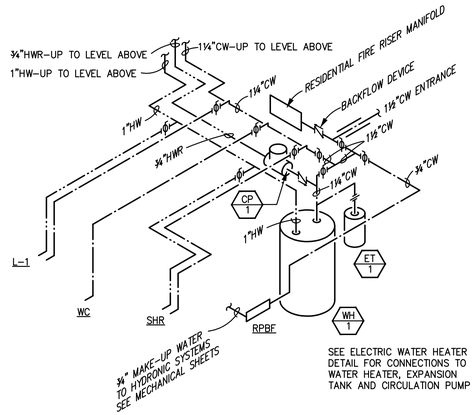
phase / rev

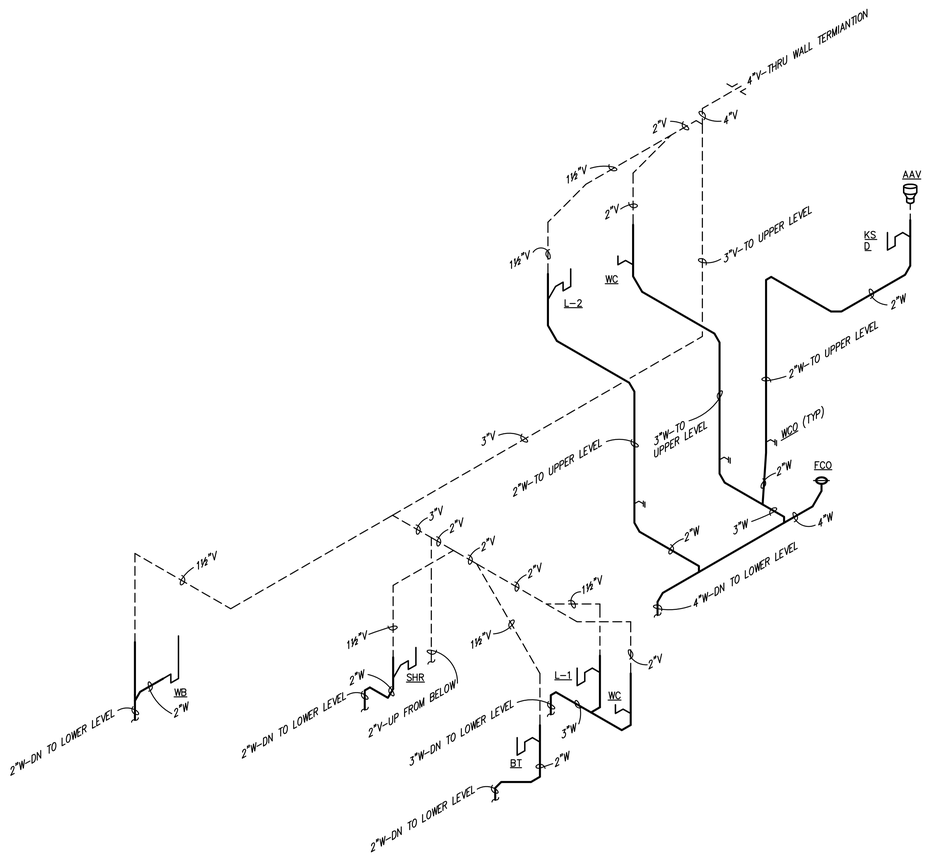
2017.06.01
date



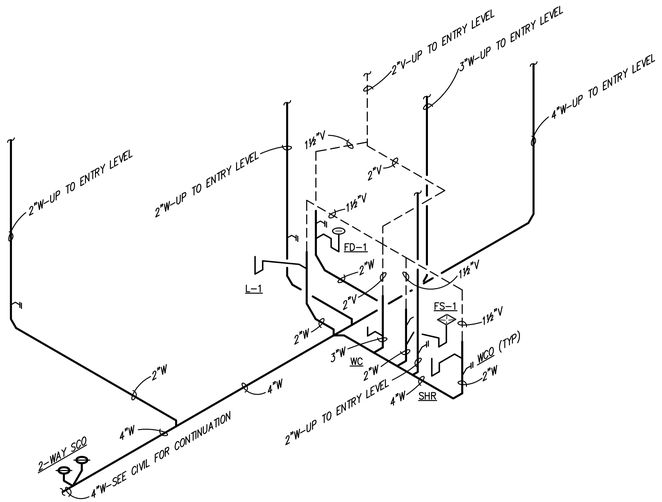
2 ENTRY AND UPPER LEVEL WATER PIPING DIAGRAM
N.T.S.



1 LOWER LEVEL WATER PIPING DIAGRAM
N.T.S.



B ENTRY AND UPPER LEVEL WASTE AND VENT DIAGRAM
N.T.S.



A LOWER LEVEL WASTE AND VENT DIAGRAM
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P2.0
TYPICAL UNIT PLUMBING DIAGRAMS

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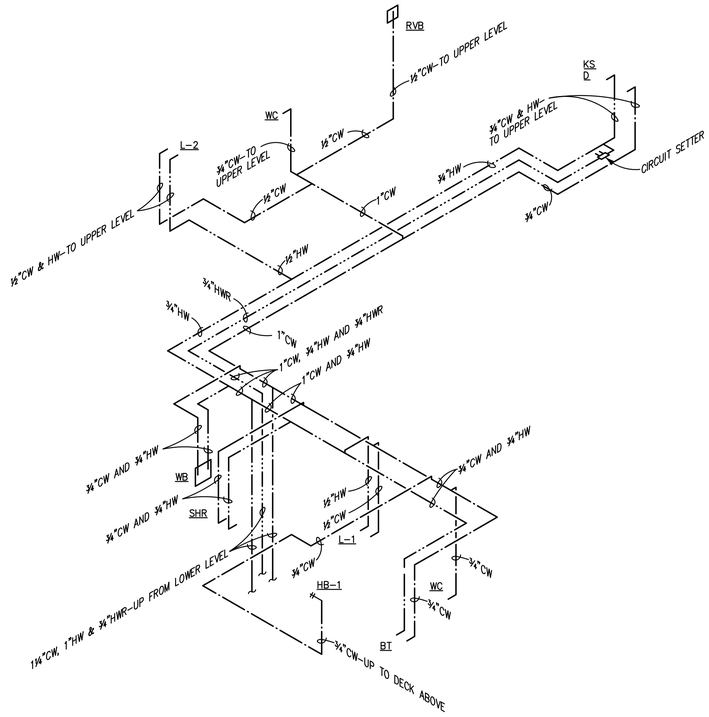
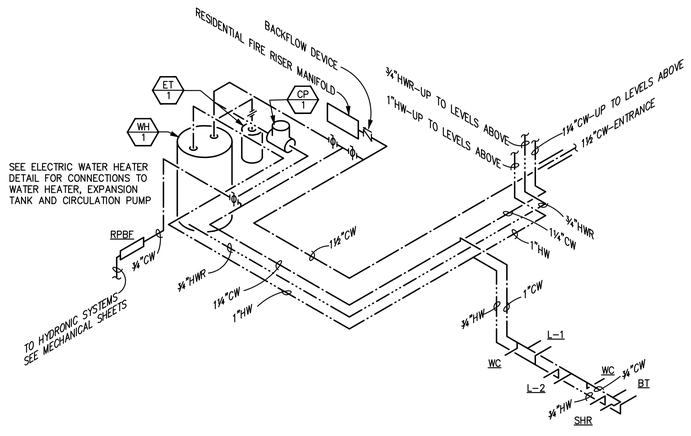
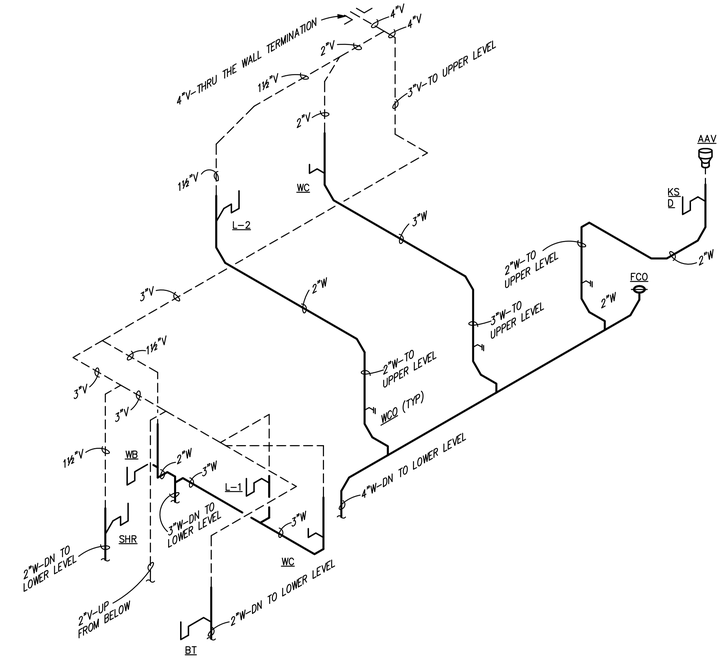


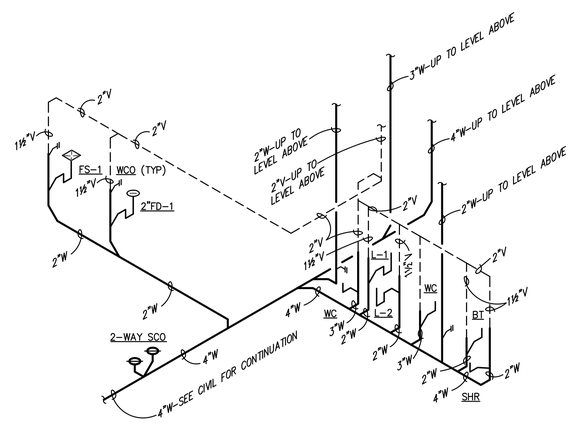
4 ENTRY AND UPPER LEVEL WATER PIPING DIAGRAM
N.T.S.



3 LOWER LEVEL WATER PIPING DIAGRAM
N.T.S.



D ENTRY AND UPPER LEVEL WASTE AND VENT DIAGRAM
N.T.S.



C LOWER LEVEL WASTE AND VENT DIAGRAM
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P2.1
LOT 124
PLUMBING
DIAGRAMS

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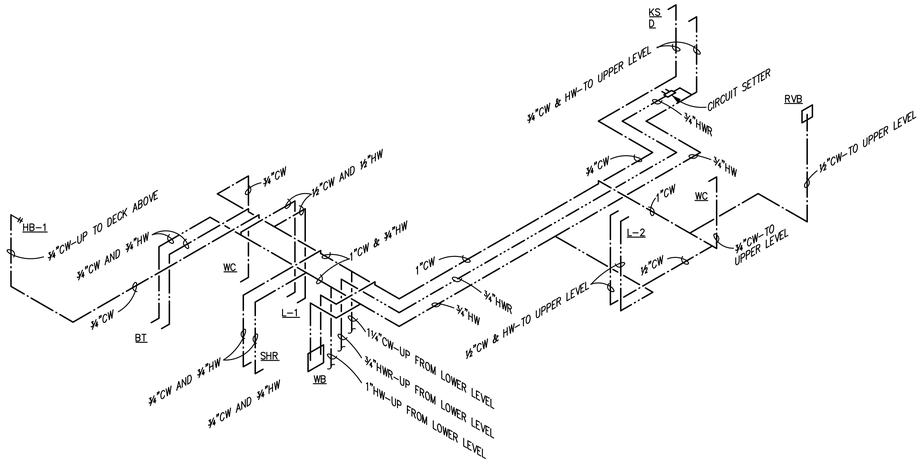
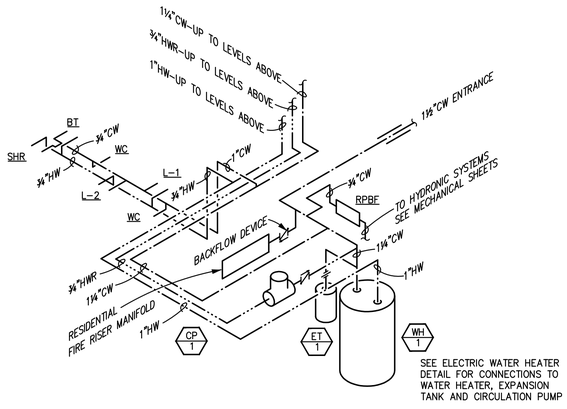
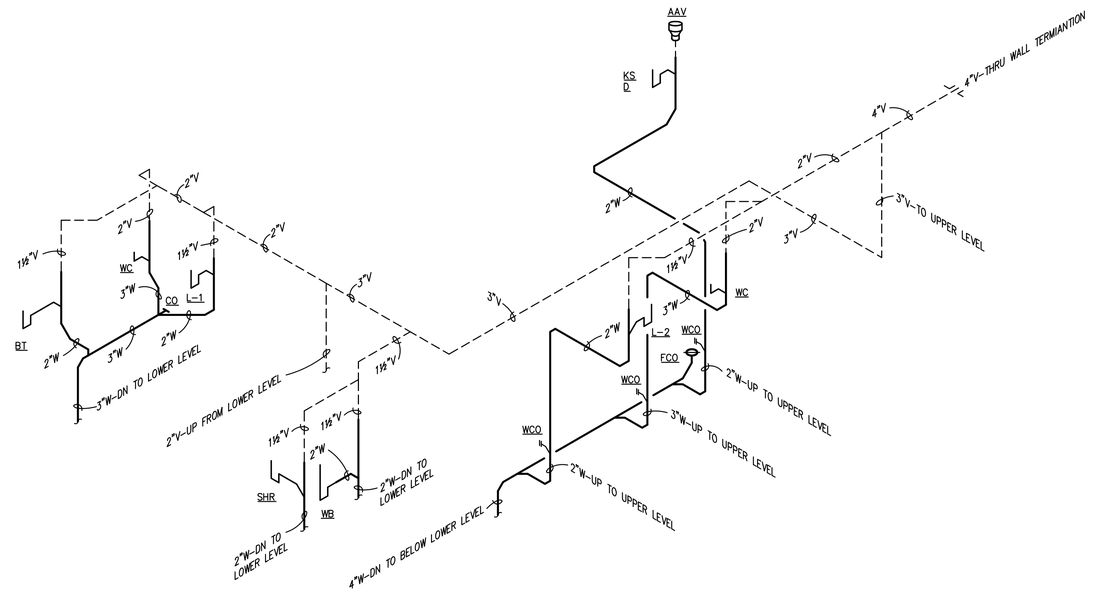


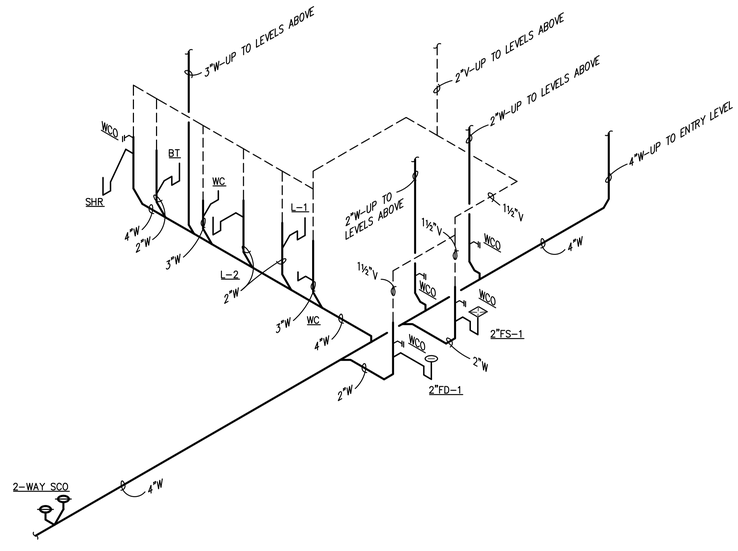
6 ENTRY AND UPPER LEVEL WATER PIPING DIAGRAM
N.T.S.



5 LOWER LEVEL WATER PIPING DIAGRAM
N.T.S.



F ENTRY AND UPPER LEVEL WASTE AND VENT DIAGRAM
N.T.S.



E LOWER LEVEL WASTE AND VENT DIAGRAM
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P2.2
LOT 133
PLUMBING DIAGRAMS

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2017.06.01
date

ELECTRICAL SYMBOLS
(RESIDENTIAL)

	DUPLEX CONVENIENCE OUTLET MOUNTED AT +15" TO BOTTOM OR AS NOTED 'WP' DENOTES IN-USE WEATHERPROOF COVER.
	DOUBLE DUPLEX (FOURPLEX) RECEPTACLE MOUNTED AT +15" TO BOTTOM OR AS NOTED.
	DUPLEX CONVENIENCE OUTLET MOUNTED ABOVE COUNTER. MOUNTING HEIGHT AS NOTED.
	50 AMP RECEPTACLE. RECESS MOUNTED. 120/240V, 4W
	HALF SWITCHED DUPLEX RECEPTACLE AT +15" TO BOTTOM OR AS NOTED.
USB	DUPLEX USB PORT
H	DUPLEX MOUNTED HORIZONTALLY
	FLUSH FLOOR DUPLEX CONVENIENCE OUTLET – LEW ELECTRIC 812-DFB.
	CHIME
S	SMOKE DETECTOR – SINGLE STATION 120V. WITH BATTERY, INTERCONNECTED.
CO	CARBON MONOXIDE DETECTOR – SINGLE STATION 120V. WITH BATTERY, INTERCONNECTED.
	CEILING MOUNTED OCCUPANCY SENSOR.
TV	TV OUTLET 52" A.F.F. OR AS NOTED.
	TELE/DATA OUTLET
	FLUSH FLOOR TELE/DATA OUTLET
	J-BOX FLUSH MOUNTED FOR CEILING FAN. J-BOX SHALL BE U.L. LISTED FOR CEILING FAN APPLICATION AND SHALL BE INSTALLED PER N.E.C. 370-23, 370-27(c) AND 422-18.
	PANELBOARD – MOUNT AT +6'-6" TO TOP OR AS NOTED.
	MOTOR – SIZE AS INDICATED ON DRAWINGS.
	DISCONNECT SWITCH – SIZE AND FUSES AS PER MANUFACTURER'S RECOMMENDATIONS (WEATHERPROOF WHERE OUTSIDE).
$	SINGLE POLE SWITCH MOUNTED AT +48" OR AS NOTED. SEE GENERAL NOTE #8 THIS SHEET.
$D	DIMMER SWITCH RATED FOR LOAD.
$3	3-WAY SWITCH AT +48" OR AS NOTED.
EF	EXHAUST FAN – 150 WATT, 120V. UNLESS NOTED OTHERWISE.
GCFI	GROUND FAULT CIRCUIT INTERRUPTER (REFER TO GENERAL RESIDENTIAL NOTES).
AFCI	ARC FAULT CIRCUIT INTERRUPTER (REFER TO GENERAL RESIDENTIAL NOTES).
	4'-0" SURFACE MOUNTED LIGHTING FIXTURE
	2'-0" SURFACE MOUNTED LIGHTING FIXTURE
	RECESSED WALL WASHER
	RECESSED SHOWER LIGHT
	WALL SCONCE

NOTES:

1. ALL INTERIOR UNIT LIGHTING SHALL BE ON WALL DIMMERS, UNLESS CONTROLLED BY OCCUPANCY SENSOR OR JAMB SWITCHES.
2. 'LUTRON' DECORA STYLE PLATES & SWITCHES & DEVICES, WHITE PLASTIC – MATTE, NOT GLOSSY FINISH.

HVAC EQUIPMENT SCHEDULE

UNIT NUMBER	EQUIPMENT DESCRIPTION	HP	KVA	KW	AMPS	VOLTS/ø	(See Note 1) DISC SW	(See Note 2) STARTER	(See Note 3) BRANCH CIRCUIT**
B 1	HOT WATER BOILER	–	–	10	–	240/1	60/2	–	(2)#6 CU, (1)#10 CU. GND.
B 2, B 4, B 5	HOT WATER BOILER	–	–	15	–	240/1	100/2	–	(2)#2 CU, (1)#8 CU. GND.
MAU 1	MAKE UP AIR UNIT	FRAC.	–	5	–	240/1	30/2	–	(2)#10 CU, (1)#10 CU. GND.
WH 1	ELECTRIC WATER HEATER	–	–	5.5	–	240/1	30/2	–	(2)#10 CU, (1)#10 CU. GND.

NOTES

1. NEMA 3R WHERE OUTSIDE. PROVIDE FUSING PER HVAC EQUIPMENT MANUFACTURER'S RECOMMENDATIONS.
2. ALL MOTOR STARTERS LOCATED OUTDOORS SHALL BE PROVIDED WITH TEMPERATURE COMPENSATED ELECTRONIC OVERLOADS IN LIEU OF BIMETALLIC OVERLOAD ELEMENTS.
3. ALL CONDUCTORS FEEDING HVAC EQUIPMENT SHALL BE COPPER WITH INSULATION RATED FOR 90 DEGREES C.
4. WIRE SIZE INDICATED BASED UPON TABLE 310.15(B)(16) NOT DE-RATED. ALL CONDUCTORS SERVING OUTDOOR EQUIPMENT AND/OR ROUTED OUTDOORS, SHALL BE DE-RATED FOR 117'-122'F (NEC TABLE 310.15(B)(2)(A). IN ADDITION, CONDUCTORS ON ROOF SHALL BE FURTHER DE-RATED PER NEC TABLE 310.15(B)(3)(C).

ELECTRICAL SPECIFICATIONS
(RESIDENTIAL)

PART 1 GENERAL

1.1 SCOPE OF WORK
A. Provide trenching and backfill in accordance with power and telephone company requirements.
B. Verify with power and telephone companies the location of equipment, trench and conduit routing, termination locations, method of termination, pad size and other required information. Obtain drawing, specifications and instructions for all work.
C. Pay utility company charges, including design and customer contribution charges.
D. All materials shall be new, in good conditions and the product of an established and recognized manufacturer.
E. All trade work shall be by skilled mechanics in accordance with best trade practice and shall include all item of fabrication, instruction or installation as regularly furnished or required for installation. When completed, all work shall be functional, durably built and installed and shall present a neat workmanlike appearance.
F. Comply with the latest edition of the national electric code, state or city electric codes and the requirements of the telephone and power companies. Where conflicts occur, the more stringent requirement or the code enforced by the authority having jurisdiction shall apply.
G. Plan and install work so as to conform to structure, avoid obstructions, preserve headroom and keep openings and passageways clear. Consult architect immediately if conflicts occur.
H. Protect material during storage and handling and subsequent to installation from damage.
I. Provide temporary power and distribution for installation and testing operations.
J. In general, the work shall consist of, but is not limited to, the following:
   1. Panels, conduit, wiring, devices, etc., For all outlets and equipment.
   2. Electrical service as indicated on the drawings.
   3. Lighting fixtures with lamps: refer to fixture schedule.
   4. Excavation and backfill.

1.2 QUALITY
A. Codes and Standards: All work in this section will comply with the regulations of the State, County and their serving Power Company. All materials used shall have a UL label when normally available. National Electrical Code applies.
B. Drawings: The drawings are generally diagrammatic. Coordinate the work so each piece of equipment will be installed as to function properly.

PART 2 PRODUCTS

2.1 BUILDING SERVICE
A. Indicated on the drawings. Power Company charges included in base bid. Verify routing with the Power Company.

2.2 SERVICE ENTRANCE EQUIPMENT
A. As indicated on the drawings, conforming to the requirements of the power company, national and local electrical codes. Shop drawings shall be submitted to the Owner and the Power Company for approval.

2.3 PANELBOARD
A. Building Branch Panels Shall Be Load Center Type; Circuit Breaker Shall Be Of The Quick-Make, Quick-Break, Thermal Magnetic Trip Ambient Compensated Interchangeable Type. Provide Panels With Doors. Tie Bars To Form Two Pole Breaker Sand Tandem Breakers Will Not Be Accepted. Panels Shall Be Type Indicated On The Drawings.

2.4 RACEWAYS
A. Electrical Metallic Tubing: Used as permitted by codes.
B. Galvanized Steel: Used as permitted by code and protected from corrosion.
C. Liquidtight Flex Conduit: Used for outdoor motor and equipment connections shall be sunlight resistant listed.
D. Non Metallic Conduit: UL labeled, Schedule 40 "PVC" conduit may be used for underground feeders and branch circuits where under slabs or protected by a 3 inch concrete envelope. Rigid steel sweep elbows shall be used for all bends on conduit sizes larger than one inch.

2.5 WIRE
A. Conductors: Annealed copper wire. Wire No. 8 and larger shall be stranded.
B. Insulation: Type THWN/THHN.
C. Sizes: No wire smaller than No. 12 shall be installed, unless noted otherwise or per manufacturer's recommendations.
D. Non-metallic sheathed cable (NM Cable) with ground wire is acceptable for branch circuiting if approved by local authority.
E. Aluminum Conductors: Permitted only for panel feeders where shown on plans.

2.6 OUTLET BOXES
A. Provide each switch, light, receptacle, or their outlet throughout the building, and each pull and junction box, with outlet box manufactured by Steel City, Bowers, or RACO. Galvanized steel knockout type with approved plaster ring in masonry, or octagon box with plaster ring for ceiling outlet, and set flush with the finished surface. Non-metallic device boxers may be used if type "NM" cable is utilized.
B. Junction and Pull Boxes: Provide with screw covers located in an accessible location.
C. Interior Single Pole Switches: Lutron "Decora" Series or equal – color selected by Owner.
D. Interior Dimmer Switches: Lutron "Decora" Series or equal – (Low voltage where needed).
E. Weatherproof Outlets: Hubbell No. 5205 plate with 5252 outlets.
F. Duplex Receptacles: "Lutron", "Lumea" Series.

2.7 SECURITY SYSTEM
A. Furnished by allowance, contractor installed.
B. Install in accordance with manufacturer's written instruction.

PART 3 EXECUTION

3.1 WORKMANSHIP
A. Conduit: In accordance with Tables 1 and 4 of the NEC, of such size and so installed that conductors may be drawn in without injury or excessive strain.
B. Concealment: Conceal all conduit.
C. Support and Joints: Firmly secure all conduit not embedded in concrete by approved pipe clamps, hangers, etc. Treat joints of galvanized conduit with approved joint compound.
D. Grounding: Ground all panelboard cabinets, equipment and enclosure and the complete conduit system in accordance with pertinent sections of Article 250 of the NEC. Bond all electrically operated equipment to the grounding system. Provide a mechanical bonding conductor in all raceways or cable assemblies sized in accordance with NEC 250-95.
E. Wiring: Do not draw wiring into conduit until conduit system is complete; lubricant shall be Mineralacc or type approved by wiring manufacturer.
F. Fixtures: Provide fixtures as indicated on schedule with lamps of required type and wattage. Verify ceiling construction for all recessed fixtures prior to ordering. Install all fixtures at locations shown. Provide fixtures with I.C. rating in insulated ceiling areas.
G. Connections to Equipment: Make all power wiring connections for equipment furnished under other sections of these specifications, including necessary wiring for all air handlers, compressors, pumps, etc. Make connections to motors with flexible liquid-tight conduit. Obtain required information from other trades and rough-in to meet requirements of equipment.
H. Verify nameplate ratings of all equipment and recommendations for breaker sizes prior to installation. Provide disconnect switches and fuses at equipment where indicated.
I. Coordinate all aspects of the mechanical systems with the mechanical contractor prior to installation. Coordinate control requirements, provide relays, starters, etc., when not furnished with equipment.

GENERAL RESIDENTIAL NOTES:

1. ALL RECEPTACLES IN THE FOLLOWING AREAS SHALL BE GFCI PROTECTED: KITCHEN COUNTERS, BATHROOMS, WET BAR SINKS, GARAGES, AND OUTDOORS PER NEC 210-8(a).
2. PROVIDE A MINIMUM OF TWO 20 AMP SMALL APPLIANCE BRANCH CIRCUITS FOR RECEPTACLES IN THE KITCHEN PER NEC210-11(c)(1). THESE CIRCUITS SHALL HAVE NO OTHER OUTLETS PER NEC 210-52(b)(2).
3. RECEPTACLES SERVING KITCHEN COUNTER SPACES MUST BE SPACED SO NO POINT OF A COUNTER IS FURTHER THAN 24" FROM A RECEPTACLE. ISLANDS AND PENINSULAR COUNTERS MAY HAVE NO POINT FURTHER THAN 4' FROM A RECEPTACLE. NEC210-52(c). A RECEPTACLE SHALL BE INSTALLED AT EACH WALL COUNTER SPACE THAT IS 12" OR MORE IN WIDTH PER NEC 210-52(c)(1). MOUNT HORIZONTAL AS PER ARCHITECTURAL DETAIL.
4. A DEDICATED 20 AMP BRANCH CIRCUIT SHALL BE PROVIDED FOR ALL THE BATHROOMS PER NEC 210-11(c) (3). PROVIDE A WALL MOUNTED RECEPTACLE OUTLET WITHIN 36" OF THE BATHROOM OR POWDER ROOM LAVATORY PER NEC 210-52(d). MOUNT HORIZONTAL AT +42" AFF.
5. ALL BRANCH CIRCUITS SUPPLYING RECEPTACLES IN ROOMS IDENTIFIED BY NEC 210-12(B) OUTLETS SHALL BE ARC-FAULT CIRCUIT INTERRUPTER (AFCI) PROTECTED.
6. PROVIDE A DEDICATED 20 AMPERE BRANCH CIRCUIT TO THE LAUNDRY PER NEC 210-11(c)(2).
7. ELECTRIC RANGES AND CLOTHES DRYERS SHALL BE SUPPLIED BY 4-WIRE GROUNDING TYPE CORD & PLUG ASSEMBLY PER NEC 250-134 & 138. RANGE & DRYER ENCLOSURES SHALL NOT BE GROUNDED BY CONNECTION TO THE GROUNDED CIRCUIT CONDUCTOR.
8. REFER TO ARCHITECTURAL RESIDENTIAL UNIT PLANS DRAWINGS FOR EXACT LOCATIONS OF ALL LIGHT FIXTURES, CEILING FANS, AND FLOOR OUTLETS.
9. THE ELECTRICAL CONTRACTOR & PLUMBING CONTRACTOR SHALL COORDINATE THE EXACT LOCATION OF SHOWER DRAINS AND SHOWER CAN LIGHTS PRIOR TO ROUGH-IN OF THE DRAINS.
10. ALL CONDUIT INSIDE MECHANICAL ROOMS SHALL BE ROUTED CONCEALED IN WALLS. COORDINATE LOCATIONS OF HEAT PUMP DISCONNECT SWITCH WITH HVAC CONTRACTOR PRIOR TO ROUGH-IN.
11. REFER TO ARCHITECTURAL RCP DIMENSIONED PLANS FOR ALL SMOKE/CARBON MONOXIDE DETECTOR LOCATIONS.
12. IN ALL AREAS SPECIFIED IN NEC 210.52, ALL 15-AMPERE AND 20-AMPERE RECEPTACLES SHALL BE LISTED TAMPER RESISTANT RECEPTACLES AS REQUIRED BY NEC 406.11.
13. ALL RECEPTACLES LOCATED OUTDOORS SHALL BE LISTED AS "WEATHER-RESISTANT" AND SHALL BE INSTALLED IN A WEATHER-PROOF ENCLOSURE. WEATHER-PROOF ENCLOSURE SHALL BE LISTED FOR USE IN WET LOCATIONS PER NEC ART. 406.9(B).

GENERAL NOTES:

1. ALL CONDUIT SHALL BE CONCEALED.
2. ALL LIGHTING FIXTURE & OUTLET BOXES SHALL BE RECESSED.
3. ALL BRANCH CIRCUITING CAST INTO SLAB SHALL BE SCHEDULE 40 PVC OR PVC COATED MC CABLE.

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E0.1
ELECTRICAL LEGEND AND NOTES

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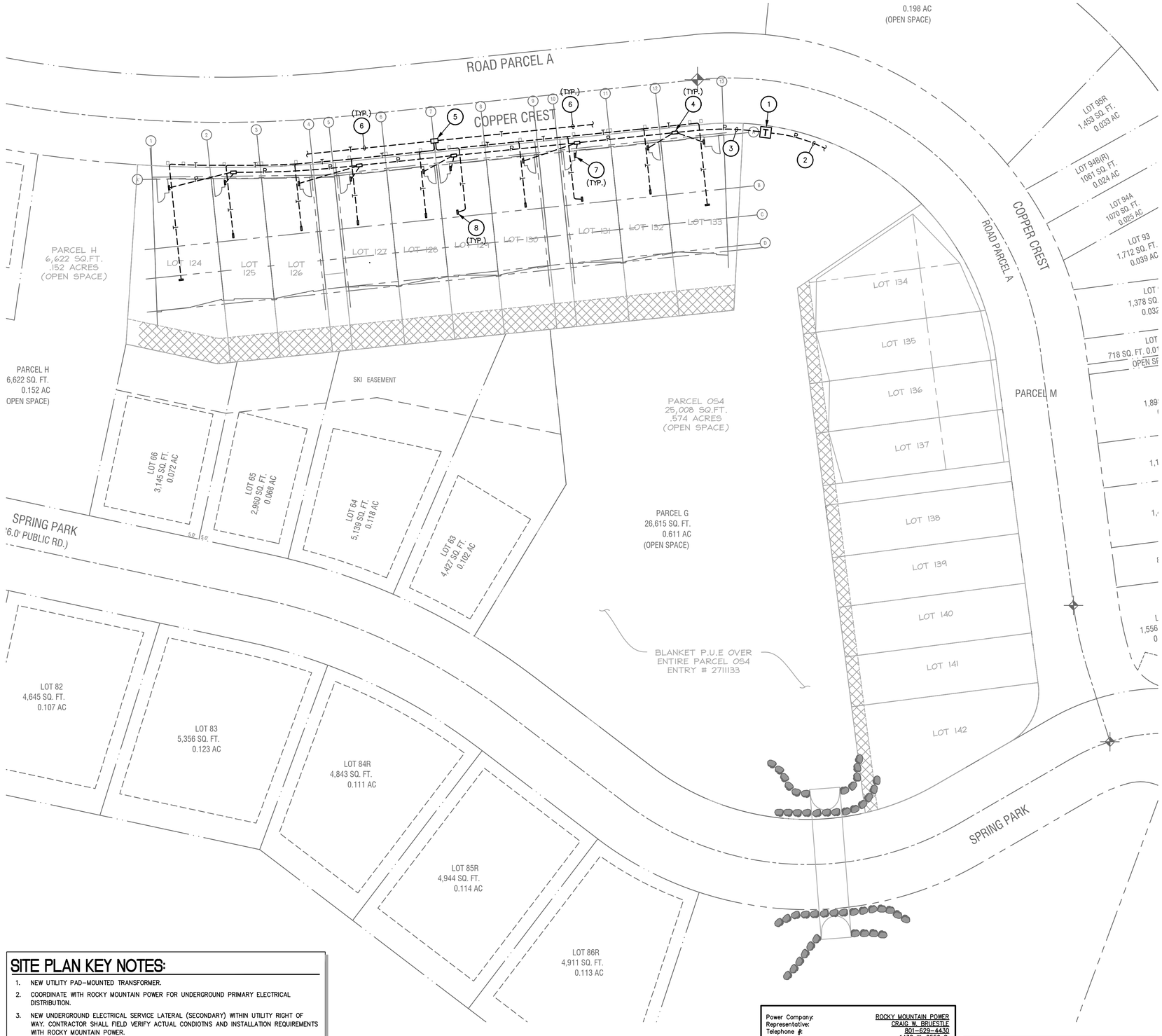

ELECTRICAL SITE PLAN
1"=20'-0"

GENERAL SITE PLAN NOTES:

1. THE SIZE, LOCATION AND DEPTH OF UNDERGROUND UTILITIES SHOWN ON THIS PLAN AND ASSOCIATED DETAILS ARE BASED UPON INFORMATION PROVIDED BY THE UTILITY COMPANY AT THE TIME OF DESIGN. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF ALL EXISTING UNDERGROUND UTILITIES IN THE WORK AREA BEFORE DIGGING AND SHALL TAKE NECESSARY MEASURES TO PROTECT HIMSELF, HIS PERSONNEL, AND THE PUBLIC FROM HARM DUE TO CONTACT WITH UNDERGROUND UTILITIES WHETHER OR NOT SHOWN ON THESE PLANS. CONTACT AN UNDERGROUND UTILITIES LOCATION SERVICE AT LEAST 72 HOURS PRIOR TO DIGGING TO SPOT UTILITIES. NOTIFY THE ARCHITECT, ENGINEER, AND OWNER OF ALL INCORRECTLY CHARTED SITE UTILITIES ENCOUNTERED DURING THE COURSE OF THE WORK.
2. REFER TO ONE-LINE DIAGRAM FOR ADDITIONAL INFORMATION REGARDING UTILITY SERVICE REQUIREMENTS.
3. REFER TO THE UTILITY SITE-SPECIFIC SHOP DRAWINGS FOR TRENCH ROUTING, CONDUIT SIZES, AND QUANTITIES FOR INCOMING ELECTRIC, PHONE, DATA, AND CABLE TV SERVICES.
4. ELECTRICAL AND TELECOMMUNICATIONS SERVICE ROUTING SHOWN ON THE ELECTRICAL SITE PLAN ARE BASED UPON INFORMATION AVAILABLE AT THE TIME OF DESIGN.
5. SITE PLAN INDICATES GENERAL LOCATIONS OF UTILITY-OWNED, TRANSFORMERS, AND PRIMARY CABLE ROUTING BASED UPON INFORMATION AVAILABLE AT THE TIME OF DESIGN. PRIOR TO ROUGH IN, VERIFY THE ACTUAL ROUTING OF UTILITY FEEDERS, PLACEMENT OF UTILITY FACILITIES AND EQUIPMENT WITH THE APPROVED SHOP DRAWINGS PREPARED BY THE ELECTRIC UTILITY COMPANY. COORDINATE UTILITY REQUIREMENTS WITH THE GENERAL CONTRACTOR PRIOR TO COMMENCEMENT OF WORK.
6. UNLESS OTHERWISE DIRECTED BY THE UTILITY COMPANY, PROVIDE MINIMUM 24" COMPACTED COVER OVER UTILITY-OWNED SECONDARY SERVICE ENTRANCE CABLES. PROVIDE MINIMUM 36" COVER OVER UTILITY-OWNED PRIMARY CABLES.
7. UNLESS DIRECTED OTHERWISE BY THE SERVING UTILITY, ALL UNDERGROUND CROSSINGS SHALL BE INSTALLED SO THAT THERE IS AT LEAST 12" CLEAR VERTICAL SEPARATION BETWEEN THE ELECTRIC UTILITY'S UNDERGROUND FACILITIES AND THE UNDERGROUND CONSTRUCTION BEING CROSSED.
8. WHERE TELEPHONE AND/OR CATV CABLES ARE CO-LOCATED IN THE SAME TRENCH WITH ELECTRIC UTILITY-OWNED FACILITIES, THE TELEPHONE AND CATV LINES SHALL BE LOCATED ABOVE THE ELECTRIC LINES AND SHALL BE INSTALLED WITH MIMIMUM 6" CLEAR VERTIVAL SEPARATION. VERIFY SEPARATION DISTANCES WITH LOCAL SERVING UTILITY'S DESIGN AND CONSTRUCTION STANDARDS.
9. WET UTILITIES SHALL NOT BE RUN IN THE SAME TRENCH AS ELECTRIC, TELEPHONE, OR CATV UTILITIES. WHERE ELECTRIC TELEPHONE, OR CATV CROSS UNDERGROUND WET UTILITY LINES, A MINIMUM 24" VERTICAL SEPARATION SHALL BE MAINTAINED WITH THE WET UTILITY LINES PASSING BELOW. VERIFY SEPARATION DISTANCES WITH LOCAL SERVING UTILITY'S DESIGN AND CONSTRUCTION STANDARDS.
10. TRENCH BOTTOMS SHALL BE SMOOTH, FLAT AND WITHOUT SURFACE IRREGULARITIES. WHEN NECESSARY, PROVIDE SUFFICIENT QUANTITIES OF BEDDING MATERIAL TO PROVIDE THE REQUIRED SURFACE. BEDDING MATERIAL SHALL BE AS SPECIFIED BY THE UTILITY COMPANY.
11. WHEN CHANGING ELEVATIONS IN STRAIGHT CONDUIT RUNS, THE ELEVATION OF THE TRENCH BOTTOM SHALL NOT EXCEED 1'-0" RISE IN 12'-0" HORIZONTAL RUN.
12. PROVIDE ALL TRENCHING AND BACKFILL, EQUIPMENT PADS, AND FOUNDATIONS FOR UTILITY-OWNED EQUIPMENT PER UTILITY STANDARDS AND SPECIFICATIONS.
13. THE ELECTRICAL INSTALLATION SHALL CONFORM TO ALL STATE AND LOCAL SEISMIC REQUIREMENTS.

SITE PLAN KEY NOTES:

1. NEW UTILITY PAD-MOUNTED TRANSFORMER.
2. COORDINATE WITH ROCKY MOUNTAIN POWER FOR UNDERGROUND PRIMARY ELECTRICAL DISTRIBUTION.
3. NEW UNDERGROUND ELECTRICAL SERVICE LATERAL (SECONDARY) WITHIN UTILITY RIGHT OF WAY. CONTRACTOR SHALL FIELD VERIFY ACTUAL CONDIOTNS AND INSTALLATION REQUIREMENTS WITH ROCKY MOUNTAIN POWER.
4. UNDERGROUND CONCRETE PULL BOX WITH CONCRETE LID INSTALLED FLUSH WITH SIDEWALK. PULL BOX IS DEDICATED FOR ELECTRICAL SECONDARY TO DWELLING UNIT.
5. APPROXIMATE LOCATION OF UTILITY PROVIDED OPTIC FIBER DISTRIBUTION. PROVIDE 1" CONDUIT TO EACH DWELLING UNIT COMMUNICATIONS (FIBER) BOX.
6. COORDINATE WITH CENTURY LINK FOR CONTINUATION OF EXISTING UNDERGROUND TELECOMMUNICATIONS DISTRIBUTION.
7. NEW 200 AMP DWELLING UNIT UTILITY METER AND SERVICE DISCONNECT.
8. DWELLING UNIT COMMUNICATIONS BOX.

Power Company:	ROCKY MOUNTAIN POWER
Representative:	CRAIG W. BRUESTLE
Telephone #:	801-629-4430
Address:	1438 W. 2550 S. OGDEN, UT. 84401
	CRAIG.BRUESTLE@ROCKYMOUNTAINPOWER.NET

The Electrical Contractor is responsible for coordination and Compliance with the Utility Companies' requirements. Within two weeks after award of contract, submit (2) complete sets of plans, including plat of survey, to Utility Companies for coordination. Routing of incoming power and telephone services shown are for estimating purposes only. Actual routing, conduit, trench and pad requirements shall be as specified by the Utility Companies. Confirm all requirements with Utilities prior to installation.

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E1.0
ELECTRICAL SITE PLAN

N.T.S.
scale

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phase / rev

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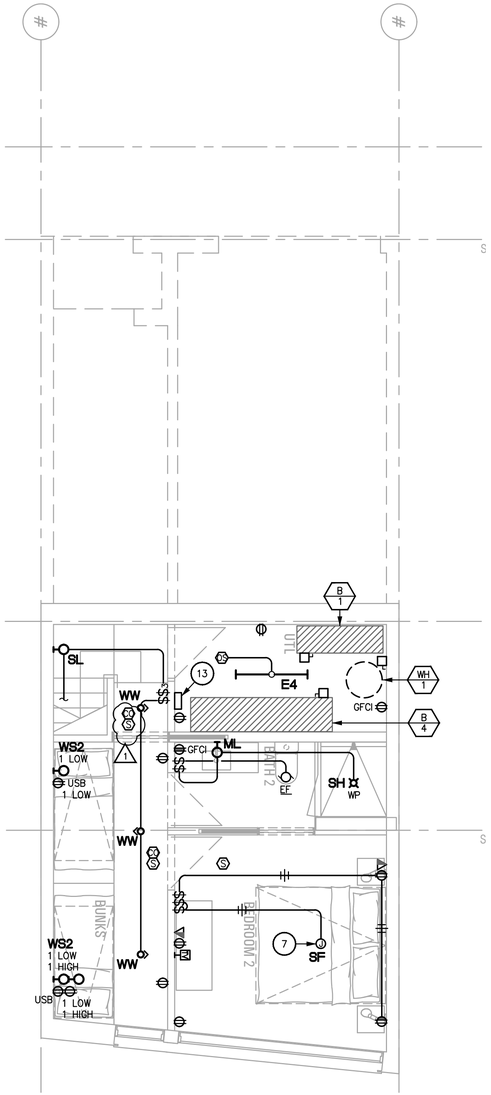
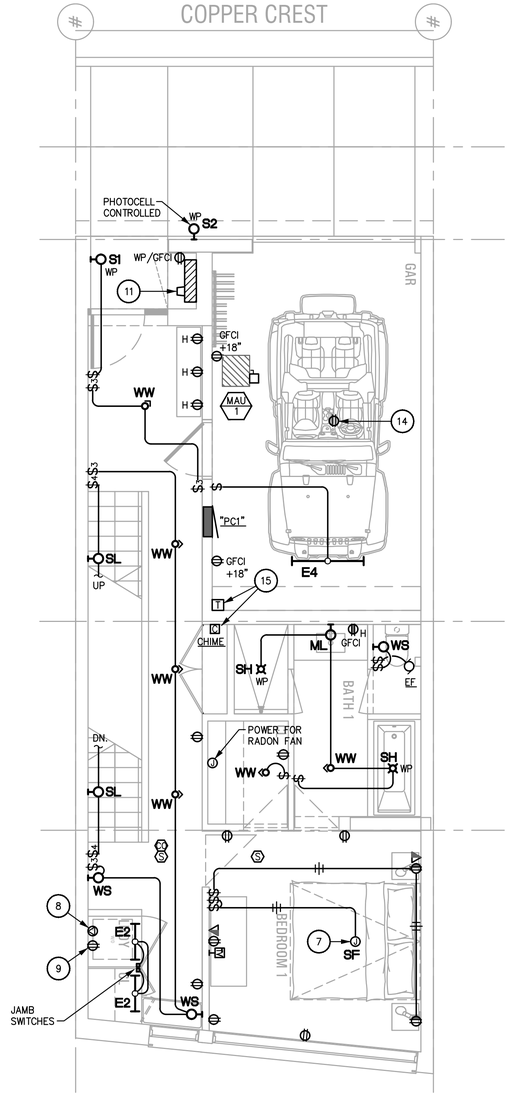


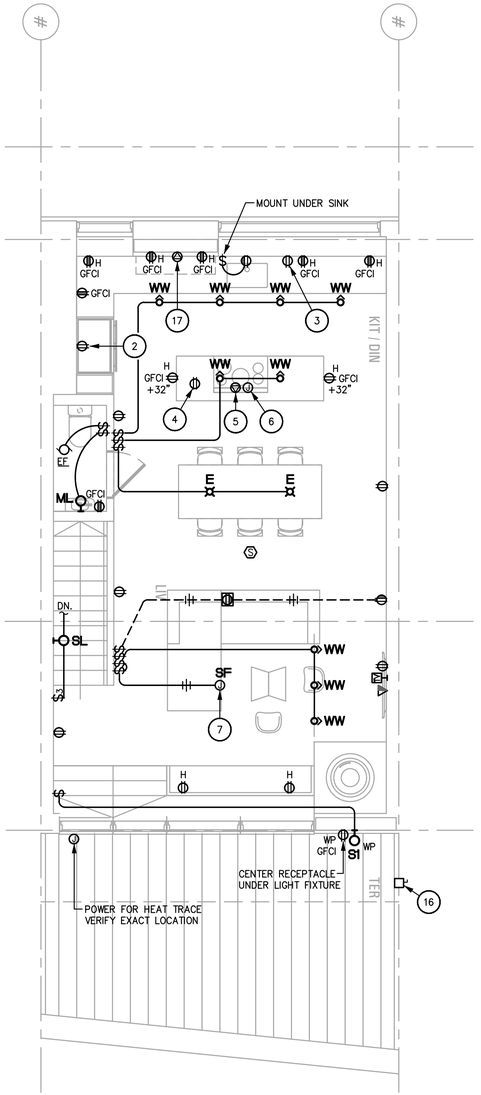
ELECTRICAL PLAN - LOWER LEVEL

1/4"=1'-0"



ELECTRICAL PLAN - ENTRY LEVEL

1/4"=1'-0"



ELECTRICAL PLAN - UPPER LEVEL

1/4"=1'-0"

NOTES:

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2. ALL SWITCHES TO BE LOCATED AS PER ARCHITECTURAL INTERIOR ELEVATIONS UNLESS NOTED OTHERWISE.
3. PROVIDE SHALLOW BOXES AS REQUIRED FOR INSTALLATION IN FURRED WALLS.

(#) KEY NOTES:

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1. GFCI OUTLETS FOR SMALL APPLIANCES, MOUNTED AT +42" A.F.F. OR AS PER ARCHITECTURAL DETAIL.
2. RECEPTACLE AT +36" A.F.F. FOR REFRIGERATOR.
3. HALF-SWITCHED RECEPTACLE BELOW COUNTER FOR GARBAGE DISPOSAL AND DISHWASHER.
4. RECEPTACLE MOUNTED UNDER COUNTER FOR MICROWAVE.
5. 50 AMP OUTLET FOR COOKTOP (3)#6 CU, (1)#10 CU. GND, MOUNT PER APPLIANCE MANUFACTURERS SPECIFICATIONS.
6. MOUNT J-BOX BELOW COUNTER FOR DOWN DRAFT VENT.
7. J-BOX FLUSH MOUNTED IN CEILING FOR "SF" TYPE FIXTURE. J-BOX SHALL BE U.L. LISTED FOR CEILING FAN APPLICATION (PROVIDE 3-WIRES FOR FAN AND LIGHT CONTROL).
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12. J-BOX FOR WATER HEATER. (2)#10 CU, (1)#10 CU. GND.
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15. TRANSFORMER FOR DOORBELL; CHIME IN CLOSET.
16. 60A-2P FUSIBLE NEMA 3R DISCONNECT FOR FUTURE HOT TUB, LOCATE IN TERRACE WALL.
17. 30A OUTLET FOR OVEN. (4)#10, (1)#10 GND, MOUNT PER APPLIANCE MANUFACTURERS SPECIFICATIONS.

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E2.0

TYPICAL UNIT ENTRY AND LOWER LEVEL FLOOR PLANS

1/4" = 1'-0"
scale

1
PERMIT SET
phase / rev

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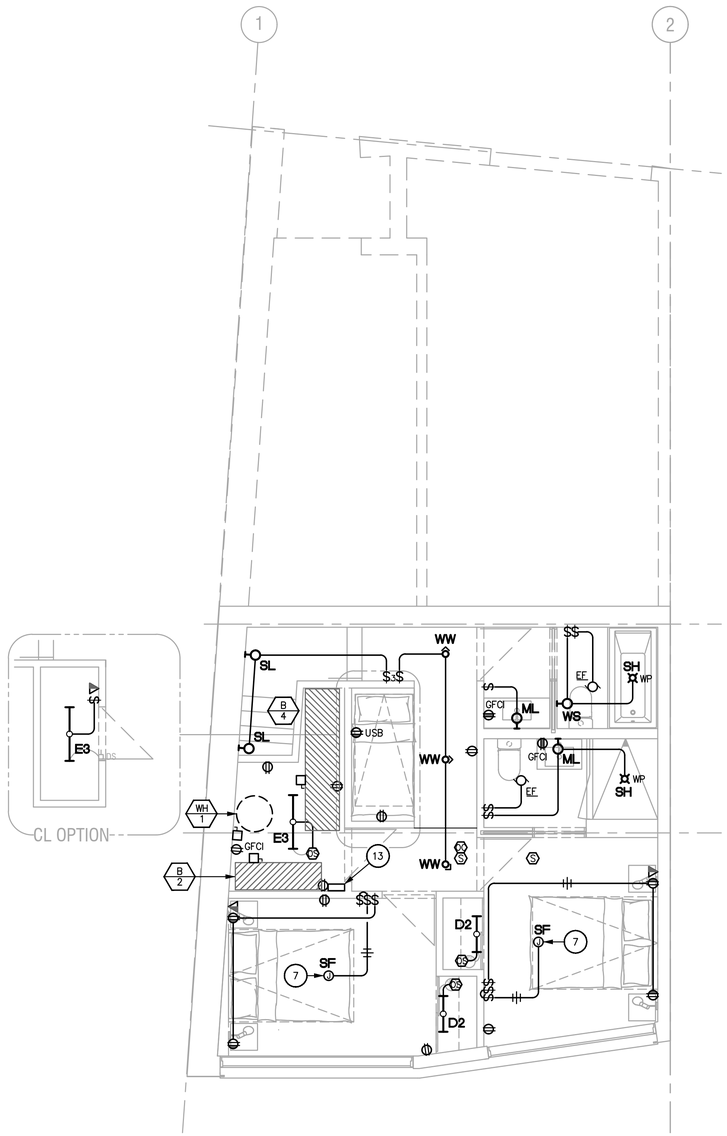
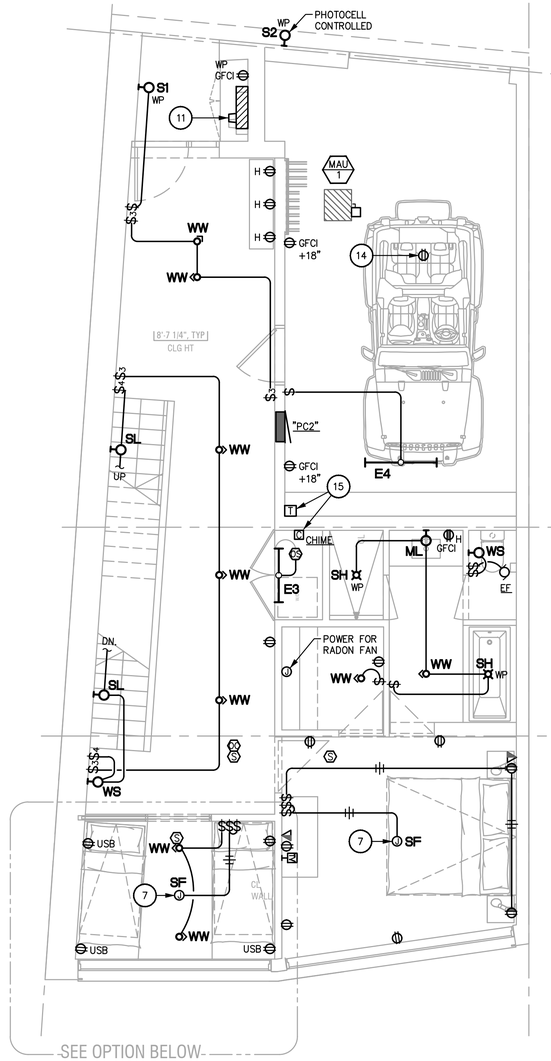
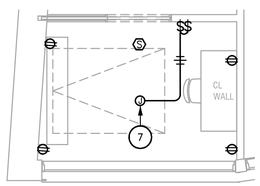
date



ELECTRICAL POWER PLAN - LOWER LEVEL

1/4"=1'-0"





ENTRY LEVEL

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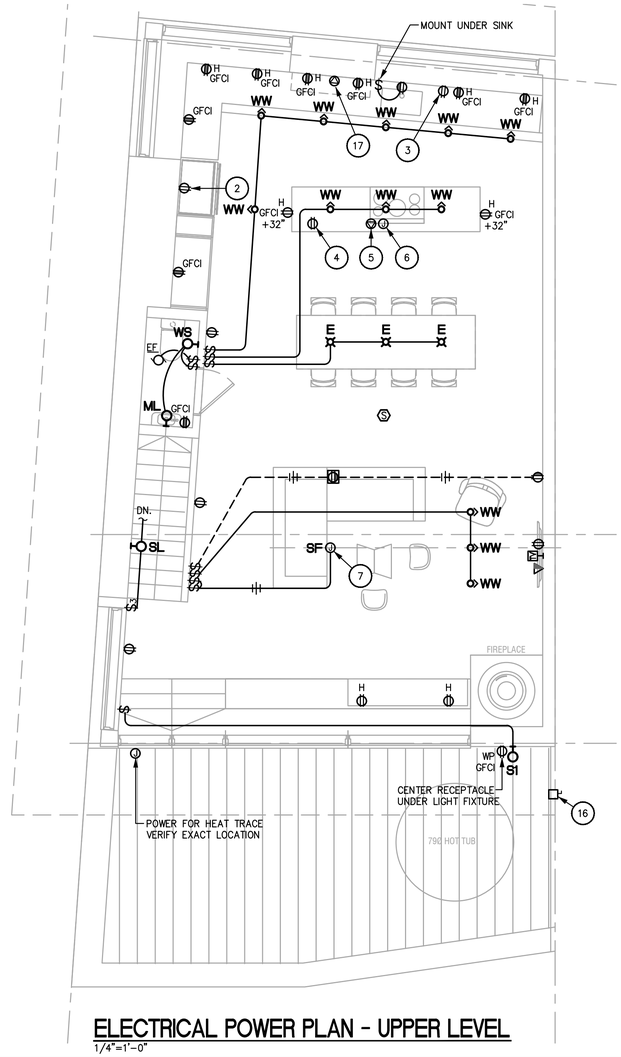

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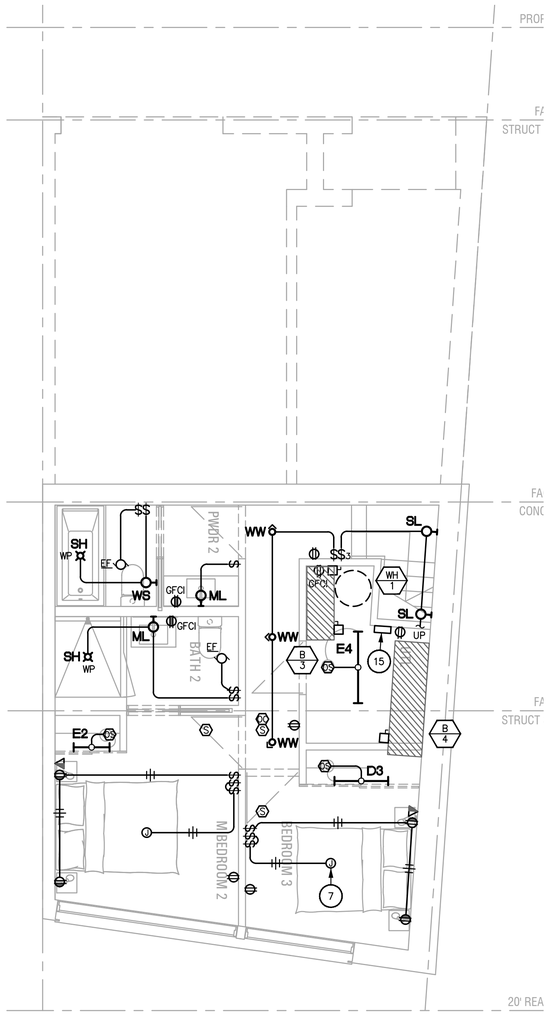
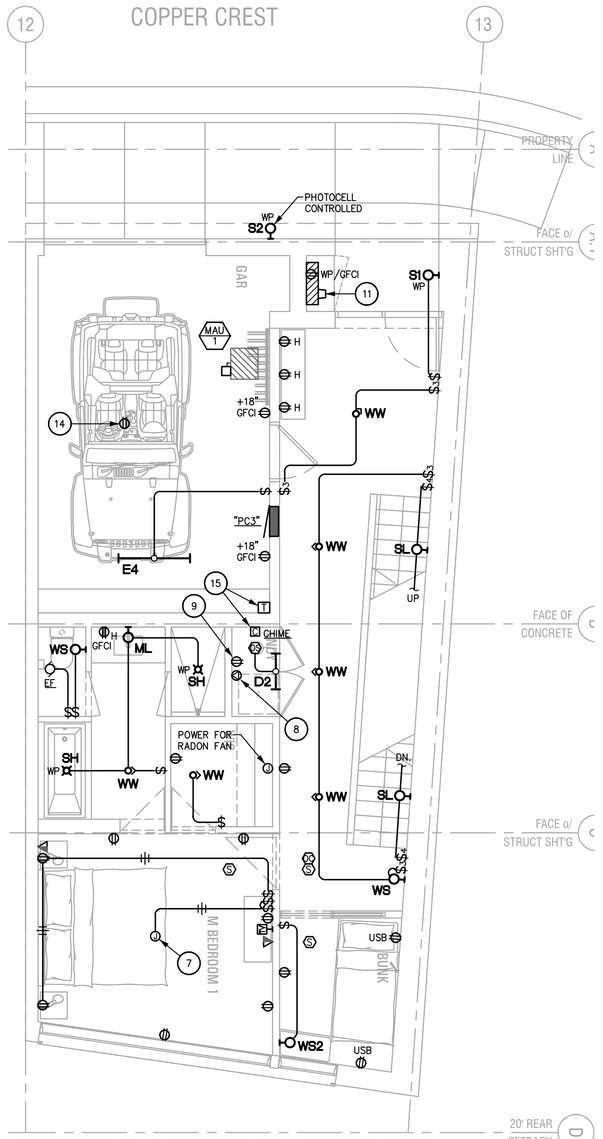
2017.06.01
date



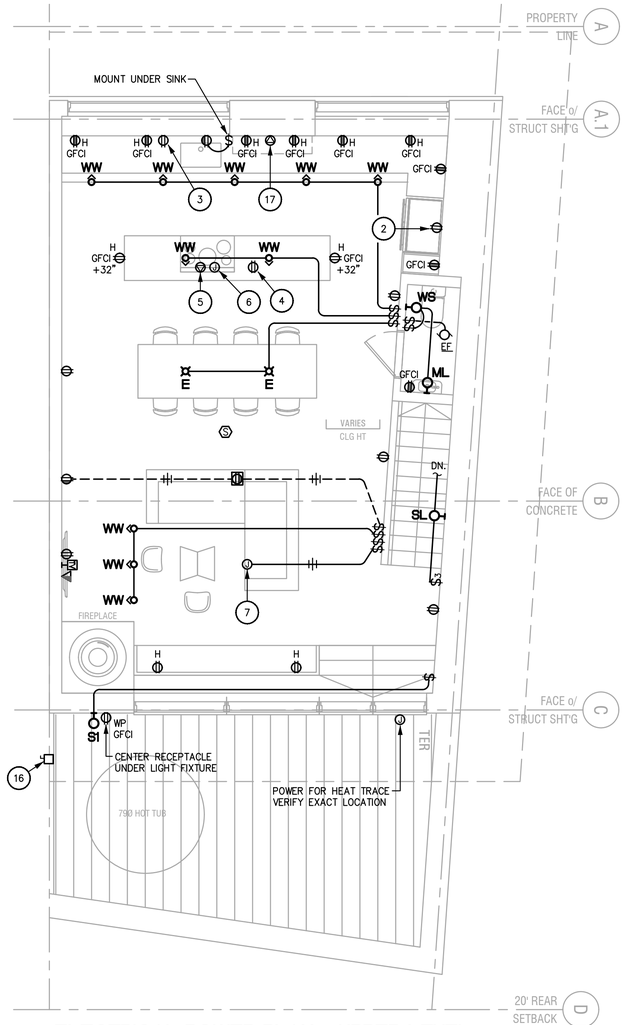
ELECTRICAL POWER PLAN - LOWER LEVEL

1/4"=1'-0"



ELECTRICAL POWER PLAN - ENTRY LEVEL

1/4"=1'-0"



ELECTRICAL POWER PLAN - UPPER LEVEL

1/4"=1'-0"

KEY NOTES:

ALL NOTES MAY NOT APPEAR ON THIS SHEET.

1. GFCI OUTLETS FOR SMALL APPLIANCES, MOUNTED AT +42" A.F.F. OR AS PER ARCHITECTURAL DETAIL.
2. RECEPTACLE AT +36" A.F.F. FOR REFRIGERATOR.
3. HALF-SWITCHED RECEPTACLE BELOW COUNTER FOR GARBAGE DISPOSAL AND DISHWASHER.
4. RECEPTACLE MOUNTED UNDER COUNTER FOR MICROWAVE.
5. 50 AMP OUTLET FOR ELECTRIC COOKTOP (3)#6 CU, (1)#10 CU. GND, MOUNT PER APPLIANCE MANUFACTURERS SPECIFICATIONS.
6. MOUNT J-BOX BELOW COUNTER FOR DOWN DRAFT VENT.
7. J-BOX FLUSH MOUNTED IN CEILING FOR "SF" TYPE FIXTURE. J-BOX SHALL BE U.L. LISTED FOR CEILING FAN APPLICATION (PROVIDE 3-WIRES FOR FAN AND LIGHT CONTROL).
8. 30 AMP OUTLET AT +40" A.F.F. FOR DRYER. (3)#10, (1)#10 GND, AT +36" A.F.F.
9. DEDICATED GFCI OUTLET AT +40" A.F.F. FOR LAUNDRY.
10. DISCONNECT SWITCH FOR A/C UNIT. MOUNT TO MAINTAIN ALL NEC CLEARANCES. (2)#8 CU. (1)#10 CU. GND.
11. ELECTRIC SERVICE METER AND DISCONNECT (REFER TO ONE-LINE DIAGRAM).
12. J-BOX FOR WATER HEATER. (2)#10 CU, (1)#10 CU. GND.
13. MEDIA ENCLOSURE BOX.
14. OUTLET FLUSH IN CEILING FOR GARAGE DOOR OPENER.
15. TRANSFORMER FOR DOORBELL; CHIME IN CLOSET.
16. 60A-2P FUSIBLE NEMA 3R DISCONNECT FOR FUTURE HOT TUB, LOCATE IN TERRACE WALL.
17. 30A OUTLET FOR OVEN. (4)#10, (1)#10 GND, MOUNT PER APPLIANCE MANUFACTURERS SPECIFICATIONS.

NOTES:

1. LOCATE ALL DEVICES AS PER ARCHITECTURAL DRAWINGS UNLESS NOTED OTHERWISE, OR REQUEST LOCATION FROM ARCHITECT PRIOR TO ROUGH-IN IF NO LOCATION IS PROVIDED.
2. ALL SWITCHES TO BE LOCATED AS PER ARCHITECTURAL INTERIOR ELEVATIONS UNLESS NOTED OTHERWISE.
3. PROVIDE SHALLOW BOXES AS REQUIRED FOR INSTALLATION IN FURRED WALLS.

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sma project no.
16-101

sma project name
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t (801) 583-1295

EXPIRES 03/31/19

E2.2

LOT 133 ENTRY AND LOWER LEVEL FLOOR PLANS

1/4" = 1'-0"
scale

PERMIT
phase / rev

2017.06.01
date

PANEL SCHEDULE "PC1"

Isolated Ground Bus: NO | Cabinet: NEMA 1 | Type: BOLT-ON | Mounting: SURFACE | Voltage: 120/240V.-1Ph.-3W. | Bracing: S.R. 42/10 | Mains: 200A. MLO | Status: NEW

(TYPICAL UNIT)

	Use and/or Area Served	C/B	Cir. No.	Volt-Amperes Phase A	Volt-Amperes Phase B	Cir. No.	C/B	Use and/or Area Served	
A	LTG & RECEPTS.	20/1	1	(REFER TO LOAD CALCULATIONS)		2	20/1	RECEPTS - SMALL APPLIANCE	G
A	LTG & RECEPTS.	20/1	3			4	20/1	RECEPTS - SMALL APPLIANCE	G
A	LTG & RECEPTS.	20/1	5			6	20/1	RECEPTS - REFRIGERATOR	G
A	LTG & RECEPTS.	20/1	7			8	20/1	RECEPTS - MICROWAVE	G
A	LTG & RECEPTS.	20/1	9			10	20/1	RECEPTS - DISPOSAL/ DISH WASHER	G
A	LTG & RECEPTS.	20/1	11			12	50/2	COOKTOP	
A	SPARE	20/1	13			14			
A	SPARE	20/1	15			16	30/2	OVEN	
A	SMOKE/ C.O. DETECTORS	20/1	17			18			
G	RECEPTS - BATH	20/1	19			20		SPACE	
G	RECEPTS - BATH	20/1	21			22		SPACE	
G	RECEPTS - BATH	20/1	23			24	20/1	LAUNDRY	G
G	RECEPTS - GARAGE	20/1	25			26	30/2	DRYER	
G	RECEPTS - EXTERIOR	20/1	27			28			
G	RADON FAN	20/1	29			30	40/2	HOT TUB	G
G	HEAT TRACE	20/1	31			32			
	MAU (5KW)	30/2	33			34	30/2	WATER HEATER (5.5KW)	
			35			36			
	BOILER (10KW)	60/2	37			38	60/2	SNOW MELT (10KW)	
			39			40			

A – CIRCUIT AFCI PROTECTED
G – CIRCUIT GFCI PROTECTED

ELECTRICAL LOAD SUMMARY "PC1"

TYPICAL UNIT
(1,545 S.F. LIVABLE)

GEN. LTG. @ 3 VA/SQ. FT.	= 4,635 VA
SMALL APPLIANCE (2)	= 3,000 VA
REFRIGERATOR	= 1,500 VA
MICROWAVE/ VENT	= 1,550 VA
DISPOSAL/ DISHWASHER	= 1,500 VA
COOKTOP/ OVEN	= 11,000 VA
LAUNDRY CIRCUIT	= 1,500 VA
DRYER	= 5,000 VA
WATER HEATER	= 5,500 VA
SNOW MELT	= 10,000 VA
HOT TUB	= 5,500 VA
	= 50,685 VA
FIRST 10,000	= 10,000 VA
REMAINDER @ 40%	= 16,274 VA
BOILER	= 10,000 VA
MAU	= 5,000 VA
	= 41,274 VA
41,274 VA/ 240V.	= 172 AMPS

ELECTRICAL LOAD SUMMARY "PC2"

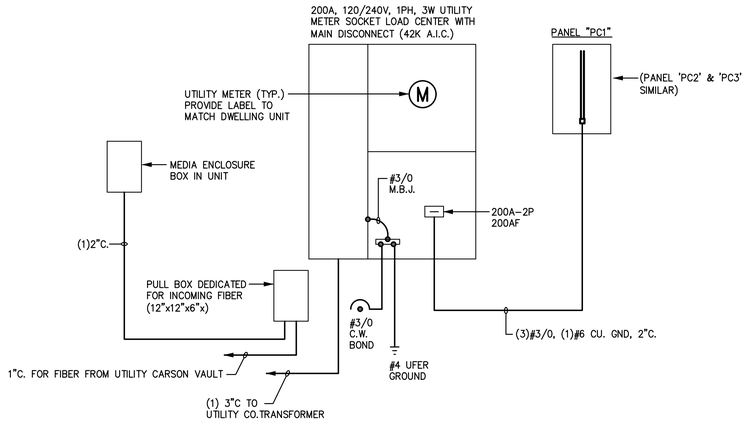
LOT 124
(2,128 S.F. LIVABLE)

GEN. LTG. @ 3 VA/SQ. FT.	= 6,384 VA
SMALL APPLIANCE (2)	= 3,000 VA
REFRIGERATOR	= 1,500 VA
MICROWAVE/ VENT	= 1,550 VA
DISPOSAL/ DISHWASHER	= 1,500 VA
COOKTOP/ OVEN	= 11,000 VA
LAUNDRY CIRCUIT	= 1,500 VA
DRYER	= 5,000 VA
WATER HEATER	= 5,500 VA
SNOW MELT	= 10,000 VA
HOT TUB	= 5,500 VA
	= 52,434 VA
FIRST 10,000	= 10,000 VA
REMAINDER @ 40%	= 16,974 VA
BOILER	= 15,000 VA
MAU	= 5,000 VA
	= 46,974 VA
46,974 VA/ 240V.	= 196 AMPS

ELECTRICAL LOAD SUMMARY "PC3"

LOT 133
(1,803 S.F. LIVABLE)

GEN. LTG. @ 3 VA/SQ. FT.	= 5,409 VA
SMALL APPLIANCE (2)	= 3,000 VA
REFRIGERATOR	= 1,500 VA
MICROWAVE/ VENT	= 1,550 VA
DISPOSAL/ DISHWASHER	= 1,500 VA
COOKTOP/ OVEN	= 11,000 VA
LAUNDRY CIRCUIT	= 1,500 VA
DRYER	= 5,000 VA
WATER HEATER	= 5,500 VA
SNOW MELT	= 10,000 VA
HOT TUB	= 5,500 VA
	= 51,459 VA
FIRST 10,000	= 10,000 VA
REMAINDER @ 40%	= 16,584 VA
BOILER	= 15,000 VA
MAU	= 5,000 VA
	= 46,584 VA
46,584 VA/ 240V.	= 194 AMPS



ELECTRICAL ONE-LINE DIAGRAM

N.T.S.

PANEL SCHEDULE "PC2"

Isolated Ground Bus: NO | Cabinet: NEMA 1 | Type: BOLT-ON | Mounting: SURFACE | Voltage: 120/240V.-1Ph.-3W. | Bracing: S.R. 42/10 | Mains: 200A. MLO | Status: NEW

(LOT 124)

	Use and/or Area Served	C/B	Cir. No.	Volt-Amperes Phase A	Volt-Amperes Phase B	Cir. No.	C/B	Use and/or Area Served	
A	LTG & RECEPTS.	20/1	1	(REFER TO LOAD CALCULATIONS)		2	20/1	RECEPTS - SMALL APPLIANCE	G
A	LTG & RECEPTS.	20/1	3			4	20/1	RECEPTS - SMALL APPLIANCE	G
A	LTG & RECEPTS.	20/1	5			6	20/1	RECEPTS - REFRIGERATOR	G
A	LTG & RECEPTS.	20/1	7			8	20/1	RECEPTS - MICROWAVE	G
A	LTG & RECEPTS.	20/1	9			10	20/1	RECEPTS - DISPOSAL/ DISH WASHER	G
A	LTG & RECEPTS.	20/1	11			12	50/2	COOKTOP	
A	LTG & RECEPTS.	20/1	13			14			
A	LTG & RECEPTS.	20/1	15			16	30/2	OVEN	
A	SMOKE/ C.O. DETECTORS	20/1	17			18			
G	RECEPTS - BATH	20/1	19			20		SPACE	
G	RECEPTS - BATH	20/1	21			22		SPACE	
G	RECEPTS - BATH	20/1	23			24	20/1	LAUNDRY	G
G	RECEPTS - GARAGE	20/1	25			26	30/2	DRYER	
G	RECEPTS - EXTERIOR	20/1	27			28			
G	RADON FAN	20/1	29			30	40/2	HOT TUB	G
G	HEAT TRACE	20/1	31			32			
	MAU (5KW)	30/2	33			34	30/2	WATER HEATER (5.5KW)	
			35			36			
	BOILER (15KW)	80/2	37			38	60/2	SNOW MELT (10KW)	
			39			40			

A – CIRCUIT AFCI PROTECTED
G – CIRCUIT GFCI PROTECTED

PANEL SCHEDULE "PC3"

Isolated Ground Bus: NO | Cabinet: NEMA 1 | Type: BOLT-ON | Mounting: SURFACE | Voltage: 120/240V.-1Ph.-3W. | Bracing: S.R. 42/10 | Mains: 200A. MLO | Status: NEW

(LOT 133)

	Use and/or Area Served	C/B	Cir. No.	Volt-Amperes Phase A	Volt-Amperes Phase B	Cir. No.	C/B	Use and/or Area Served	
A	LTG & RECEPTS.	20/1	1	(REFER TO LOAD CALCULATIONS)		2	20/1	RECEPTS - SMALL APPLIANCE	G
A	LTG & RECEPTS.	20/1	3			4	20/1	RECEPTS - SMALL APPLIANCE	G
A	LTG & RECEPTS.	20/1	5			6	20/1	RECEPTS - REFRIGERATOR	G
A	LTG & RECEPTS.	20/1	7			8	20/1	RECEPTS - MICROWAVE	G
A	LTG & RECEPTS.	20/1	9			10	20/1	RECEPTS - DISPOSAL/ DISH WASHER	G
A	LTG & RECEPTS.	20/1	11			12	50/2	COOKTOP	
A	LTG & RECEPTS.	20/1	13			14			
A	SPARE	20/1	15			16	30/2	OVEN	
A	SMOKE/ C.O. DETECTORS	20/1	17			18			
G	RECEPTS - BATH	20/1	19			20		SPACE	
G	RECEPTS - BATH	20/1	21			22		SPACE	
G	RECEPTS - BATH	20/1	23			24	20/1	LAUNDRY	G
	SPACE		25			26	30/2	DRYER	
	SPACE		27			28			
G	RADON FAN	20/1	29			30	40/2	HOT TUB	G
G	HEAT TRACE	20/1	31			32			
	MAU (5KW)	30/2	33			34	30/2	WATER HEATER (5.5KW)	
			35			36			
	BOILER (15KW)	80/2	37			38	60/2	SNOW MELT (10KW)	
			39			40			

A – CIRCUIT AFCI PROTECTED
G – CIRCUIT GFCI PROTECTED

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2202
ELMER G. PAINE
STATE OF UTAH

EXPIRES 03/31/19

E3.0
ONE-LINE DIAGRAM

N.T.S.
scale

PERMIT
phase / rev

2017.06.01
date

SECTION 15300 – FIRE PROTECTION SPECIFICATION
(Wet Automatic Sprinkler System)

PART 1 GENERAL

1.1 General Conditions and Special Conditions:

A. Bidding requirements, general conditions, general requirements, appendices, and addendums apply to the work under this section as depicted in Project Specification Manual.

1.2 General Description:

A. Provide all materials, labor, and equipment required for new wet, Automatic Sprinkler (A.S.) system in accordance with State Fire Marshal, National Fire Protection Association (N.F.P.A.), International Building Code (I.B.C.), Local Fire Prevention Department, Local Building Department and any other authorities having jurisdiction. It shall further include furnishing and installing all miscellaneous items required for the proper operation of the A.S. system, whether specifically called for or not. Install and deliver all systems complete, in perfect working order, and in full accordance with the intent and meaning of the specifications and/or drawings.

B. This Contract shall begin at point of connection to the underground riser supply line. Coordinate required work with Utility Contractor.

1.3 Intent of Specifications:

A. It is intended that the work performed pursuant to these specifications shall be complete in every respect; resulting in a system installed entirely in accordance with all applicable codes, standards, manufacturer's recommendations and UL listings and FM approvals. All work in general consists of, but is not necessarily limited to, these specifications and latest accepted code approved design and installation standards.

B. It is further intended that upon completion of work, the Owner shall be provided with the following:

1. Complete information and drawings describing and depicting the entire system(s) as installed, including all information necessary for maintaining and trouble-shooting the system.

2. Complete documentation of system testing.

3. Written certification that the system(s) has been tested and inspected, is installed entirely in accordance with the applicable codes, standards, manufacturer's recommendations, U.L. listings, F.M. approvals, etc. and is in proper working order.

4. It is intended that the Contractor be responsible for work with other trades.

1.4 Related Work Provided by Other Sections:

A. The following related work shall be performed under other sections:

1. Painting of sprinkler piping and valves, including the placement and removal of bags or other protection devices on sprinklers to prevent paint from touching any portion of the sprinkler.

2. Alarm system shall be provided by Electrical and/or Alarm Contractor(s).

3. Concrete filled pipe guard posts for protection of riser(s), backflow assembly, etc. shall be provided where equipment or materials are subject to vehicular traffic.

4. Concrete splash blocks at main drain, inspector's test outlets and auxiliary drain outlets, if necessary.

1.5 Work to be Performed:

A. Complete automatic sprinkler system protection throughout the project in accordance with these specifications and drawings.

B. Be fully informed regarding all regulations and limitations of the spaces available for installation of the automatic sprinkler system. Later claims for labor, work, material, and equipment required for any difficulties encountered that could have clearly been foreseen will not be recognized, and all such difficulties shall be properly handled by this Contractor at no additional cost to the Owner.

C. Accuracy of pre-fabricated pipe, location of sprinklers and deflectors (per NFPA and inspections), field fit of piping, piping elevations, riser nipple lengths and dimensioning.

1.6 Codes, Standards, Ordinances and Permits:

A. All work shall conform to the requirements of the applicable portions of the National Fire Protection Association (NFPA) Standards and Recommended Practices (including Appendices) listed herein:

1. NFPA-13D, current Edition, "Standard for the Installation of Sprinkler Systems".

2. NFPA-24, current Edition, "Private Fire Service Mains and their Appurtenances".

3. NFPA-25, current Edition, "Inspection Testing and Maintenance of Water-Based Fire Protection Systems".

B. All work, materials, and equipment shall conform to all Local, State and Federal Codes as well as all other authorities having jurisdiction. If more current editions of aforementioned standards, or additional standards are required then they shall be applied.

C. If there is a conflict between the referenced standards, codes, or authorities having jurisdiction; then it shall be the Contractor's responsibility to bring the conflict to the attention of the Owner or his/her Agent immediately for resolution prior to commencement of any additional work. This conflict shall be resolved at no additional cost to the Owner.

D. The Contractor shall be responsible for filing all documents, paying all fees and securing all permits, inspections and approvals necessary for conducting this work.

1.7 Quality Assurance:

A. Installer Qualifications: Installation and alterations of fire protection piping, equipment, specialties, accessories, and repair and servicing of equipment shall be performed only by a qualified installer. The term qualified means experienced in such work (experienced shall mean having a minimum of 5 previous projects similar in size and scope to this project), familiar with all precautions required and has complied with all the requirements of the authorities having jurisdiction. Installer shall be licensed with the State and Local authorities having jurisdiction. Submit evidence of such qualifications to the Owner or his/her Agent with submission of bid.

1.8 Definitions:

A. Contractor: The Fire Protection Contractor and any of his/her sub-contractors, vendors, suppliers, or fabricators.

B. Provide: Furnish and install.

C. Furnish: Purchase and deliver to other trades or Owner for installation.

D. Install: Install materials, equipment or assemblies furnished by other trades or Owner.

E. Concealed: Where used in connection with installation of piping and accessories, shall mean that hidden from sight as in chases, furred spaces, pipe shafts, or above suspended ceilings. "Exposed" shall mean "not concealed" as defined above.

F. Fire Protection Consultant:

Peterson Associates Consulting Engineers, Inc.
Contact: .

1.9 Submittals:

A. The Owner or his Agent, Architect and Fire Protection Consultant shall review all submittals for conformance to these specifications.

B. Contractor may submit for review and approval any proposed substitution of materials or method of installation, from that specified, with material submittals.

C. If submittals or proposed substitutions, upon review are found not to conform to the requirements of these specifications, the Contractor shall be required to resubmit with modification. Not approved items shall be resubmitted. The Contractor shall be responsible for the Owner's expenses for subsequent revisions of rejected submittals necessitated by the Contractor's failure to make the requested modifications. Such extra fees shall be deducted from payments by the Owner to the Contractor.

1.10 Manufacturer's Data:

A. The Contractor shall submit manufacturer's data sheets showing the type and model of all equipment or material proposed. This information shall include, but not be limited to:

B. When a data sheet shows more than one product, the proposed product shall be clearly indicated by arrows or other suitable means.

1.11 Shop/Fabrication Drawings:

A. Within 30 days after award of contract, the Contractor shall submit six (6) sets of manufacturer's data sheets, catalog cut sheets, shop drawings and data on devices for all necessary approvals prior to fabrication of materials.

B. No extension of the contract time will be granted for the Contractor's failure to allow sufficient time for review and processing, or for shop drawings which have been returned due to improper submission.

C. The Contractor will not be authorized to start any portion of the work until the catalog cuts and other required submittals for that portion are recieved, reviewed and approved by all required parties.

1.12 Operation and Maintenance Manual:

A. The Contractor shall provide the Owner with a looseleaf manual containing;

1. A detailed description of the system.

2. A detailed description of routine maintenance required or recommended or as would be provided under a maintenance schedule and detailed maintenance instructions for each type of device installed.

3. A list of recommended spare parts.

4. Service Directory.

5. 11 inch by 17-inch reduced copies of the "record" drawings.

1.13 Record Drawings:

A. The Contractor shall maintain on the site an accurate record of all changes made to the system layout from that shown on the approved drawings.

B. Upon completion of the work, before final approval, one (1) set of reproducible mylar "record" drawings shall be delivered to the Owner. Contractor shall coordinate this with Architect.

C. At least one set of approved drawings with all required stamps of approval shall be maintained on-site and made available to City Inspectors on demand during construction phase of work.

1.14 Changes:

A. Make no changes in installation from layout as shown on the approved drawings unless change is specifically approved by the Engineer. This does not include minor revisions for the purpose of coordination, or to clear ducts or obstructions.

B. Any changes made other than stated above are at the Contractors own expense and responsibility.

1.15 Leak Damage:

A. The Contractor shall be responsible during the installation and testing period of the sprinkler system for any damage to the work by others, to the building, its contents, etc. caused by leaks in any equipment, by unplugged or disconnected pipes, fittings, etc., or by overflow, and shall pay for the necessary replacement or repairs to work of others, damaged by such leaks.

1.16 Freight and Hauling:

A. Deliver materials to the job site, unload, and store in location determined by the Owner's Representative and General Contractor.

1.17 Base Bid:

A. The base bid shall be lump-sum or in accordance with Division 1 of specifications.

B. The Contractor shall indicate the number of sprinklers included in base bid, including the number of sprinklers allowed for obstructions and ductwork.

1.18 Cleanup:

A. Maintain the premises free from accumulation of waste material or rubbish caused by this work.

1.19 Safety:

A. All work shall be performed in compliance with the Occupational Safety and Health Act of 1970 and Construction Safety Acts Standards (or current).

1.20 Guarantee Period:

A. The Contractor shall guarantee in writing (triplicate) all materials and workmanship for a period of one year beginning with the date of substantial completion. The contractor shall be responsible during the design, installation, testing and guarantee period for any damage caused by him/her (or his/her Subcontractors) or by defects in his/her (or his/her Subcontractor's) work, materials, or equipment.

1.21 Emergency Service:

A. During the warranty period, the Contractor shall provide emergency repair service for the entire automatic sprinkler system. This service shall be provided on a 24-hour per day, 7 day per week basis. Coordinate details with Owner's representative.

1.22 Spare Parts and Special Tools:

A. Contractor shall install code approved metal sprinkler cabinet containing six (6) sprinklers and two (2) sets sprinkler wrenches compatible with each type of sprinkler provided.

1.23 Final Approval and Acceptance:

A. Final approval and acceptance of the work will not be given by the Owner until:

1. The completed sprinkler system has been inspected, tested and approved by the Owner, Architect, and all other authorities having jurisdiction.

2. Required submittals, system operation and maintenance manuals, "record" drawings, spare parts, and special tools have been provided to, reviewed, and accepted by the Owner.

PART 2 PRODUCTS

2.1 Sprinkler System Components – General:

A. All equipment and system components furnished and installed shall be new and unused, or first quality, similar in manufacturer and be listed by Underwriters Laboratories Inc. and approved by Factory Mutual for their intended use. All such equipment and system components shall be installed within the limitations of the respective UL listings or FM approvals.

2.2 Piping:

A. Manufacturers:
1. Allied Tube and Conduit (Grinnell)
2. Western Tube and Conduit Corp.

B. Sprinkler system piping or tubing shall meet the requirements of NFPA 13, be U.L. listed and F.M. approved. Contractor shall base his bid on the use of any one or a combination of the following:

C. Pipe meeting ASTM A-795 and/or A-135 requirements for above grade use. All pipe shall have a minimum Corrosion Resistance Ratio (CRR) of 1.00 or greater, as per U.L listings. All piping shall be black carbon steel.

D. Underground pipe and fittings (to 5'-0" beyond building): Class 150 centrifugal cast iron enameling, or cement lined mechanical joint, "Tyton" joint, conforming to USAS A-21.6 (AWWA Specification C-106); or "Permastran" conforming to ASTM D 2992 and ASTM D 2996. Class 50 ductile iron pipe. Block underground piping, fittings and thrust blocks per N.F.P.A. – 24.

E. Flanges and flanged fittings shall be 175 psi cast iron with standard ring gaskets.

F. Pipe and fittings shall be listed by Underwriters Laboratories, Inc. and approved by Factory Mutual for use in fire protection system(s) and designed to withstand a working pressure of not less than 175 psi. Where site pressures are not regulated/reduced & they exceed 250 psi, the F.P. contractor shall provide sprinklers & fittings suitable for such high pressures.

G. Flexible couplings shall be U.L. and F.M. approved.

H. Pipe penetrations through masonry and fire rated construction shall be sleeved and sealed with seals commensurate with the building construction.

I. Pipe penetrations through floors and exterior walls shall be approved waterproof seals.

J. When system piping pierces a foundation wall below grade or is located under the foundation wall, clearance shall be provided to prevent breakage of piping due to building settlement. Do not locate pipe joints within or under a foundation wall and a 1-3 inch clearance shall be provided around piping by use of sleeve for piping piercing a foundation wall. Sleeve properly and fill clear space with approved waterproof packing.

K. Use of foreign-made piping or fittings shall not be permitted.

L. Use of copper piping and fittings in accordance with NFPA-13 is permissible.

2.3 Valves:

A. Except for miscellaneous small valves, all valves shall be plainly marked with the name or registered trademark of the manufacturer, size of the valve, and UL or FM identification mark. All valves shall be suitable for 175 psi working water pressure.

B. All water supply control valves shall be an indicating type and shall be furnished with a valve supervisory device.

C. All valves shall be located within six (6) feet of the floor.

2.4 Automatic Sprinklers:

A. Sprinklers shall be of the listed automatic, glass bulb type, and shall be distributed throughout the building per code and approved construction documents.

B. Sprinklers required due to ceiling projections/obstructions and ductwork are not considered additional sprinklers. Contractor shall be responsible for identifying these locations.

2.5 Hose Threads:

A. Hose threads for hydrants and fire department Siamese connections shall match those of the local Fire Department.

2.6 Fire Department Connection:

A. Fire department connection shall be provided in accordance with requirements of all authorities having jurisdiction. Provide with check valve. Approved automatic drip shall be required only where FDC is not remotely located.

2.7 Supervisory and Alarm Equipment:

A. Paddle-type waterflow indicators with adjustable pneumatic retard chamber (0-90 seconds) shall be provided to indicate waterflow for the new sprinkler system.

B. Valve supervisory switches shall be provided for all new valves controlling the water supply to the sprinkler system.

C. All electrical wiring of alarm and supervisory devices into the detection and fire alarm system shall be done under separate contract.

2.8 Inspector's Test Connections:

A. Provide test connection at most remote portion of the A.S. system, with 1" pipe and valve. Test connection piping shall be connected to sprinkler branch line at least 1-1/4" in diameter and shall discharge outside building through smooth bore brass outlet.

2.9 Hangers:

A. Use beam clamps or hang from top chord of joists. Do not hang from bottom chord of joist or bridging.

B. Trapeze hang all mains where possible. Verify all hanger types with Structural Drawings and Engineer prior to commencement of any work.

C. Provide earthquake bracing. Install in accordance with NFPA-13 and all authorities having jurisdiction. Pipe to be generally supported by clamps and rods and secured to overhead construction.

PART 3 EXECUTION

3.1 Starting and Completion Dates:

A. The schedule for installation of the sprinkler systems will be established at the pre-bid meeting. Coordinate schedule closely with Owner/Architect.

3.2 Inspection:

A. The Contractor shall daily examine all areas in which the work will be performed. The Contractor shall immediately report unsatisfactory working conditions to the Owner or his/her Agent for resolution. The contractor shall not proceed with the work until all unsatisfactory working conditions have been corrected.

B. Owner, Architect, and all authorities having jurisdiction shall be allowed to conduct inspections and tests as they choose. Approved sprinkler plans must be available on the project site during installation and inspection of the work.

3.3 Installation General:

A. All holes made by the Contractor in any wall, ceiling or floor shall be patched by the Contractor, restoring the wall, ceiling or floor to its original condition, fire resistance and integrity.

B. Removal and repair of all finished surfaces shall be coordinated with the Architect and subject to his approval.

C. Location of all equipment, controls, piping, valves and drain shall be subject to Architect/Owner approval.

D. Standard metal signs shall be provided in accordance with NFPA-13.

E. All sprinklers and equipment shall be installed in accordance with manufacturer's instructions. All special tools recommended by the manufacturer shall be used.

3.4 Installation Piping and Sprinklers:

A. Where sprinkler piping is installed in finished areas, the Contractor shall install all new piping so that it is concealed above finished ceilings, provide a minimum separation of 12" between the ceiling height and the bottom of the sprinkler pipe. Pipe installed in unfinished areas may be exposed.

B. All exposed pipe which passes through a wall, ceiling, or floor shall be provided with chrome escutcheon plates.

C. All piping shall be installed so as not to obstruct any portion of a window, doorway, stairway or passageway, and shall not interfere with the operation or accessibility of any mechanical, plumbing or electrical equipment. Run piping horizontally and at right angles to walls and ceilings or along slope of ceilings.

D. All sprinkler piping, drain and test piping, etc. installed through exterior walls shall be galvanized and have a 4'-0" minimum length to first valve located inside insulated building envelope.

E. All sprinkler piping must be substantially supported from building structure and only approved type hangers shall be used. Sprinkler lines under ducts shall not be supported from ductwork, but shall be supported from building structure with trapeze hangers where necessary, in accordance with NFPA-13. Tapping or drilling of structural elements is not permitted. Use beam clamps or hang from top chord of joist. Do not hang from bottom chord of joist.

F. Pendent sprinklers shall be in alignment with, and parallel to ceiling fixtures, walls, etc.

G. Sprinklers shall be installed per the requirements of NFPA 13 with regard to ducts, obstructions, steel beams and joists, partitions, and ceiling projections. Provide additional sprinklers as required.

H. Contractor shall provide complete sprinkler protection before combustible contents are moved into the building.

I. All sprinkler piping and fittings shall be so installed such that system may be drained. System shall primarily be designed to drain through main drain at riser(s).

J. Minimum and maximum deflector distances shall be per NFPA requirements and manuf. listing.

K. A minimum distance between sprinklers of 6'-0" or as required by sprinklers U.L. listing, shall be provided to avoid cold soldering of sprinklers.

3.5 System Drains:

A. Provide 2" main drain valves at system control valves and extend piping to outside building. Provide a 4'-0" minimum length of main drain piping from exterior wall penetration to angle valve.

B. Pipe all drains to a location where water drained will not damage stock, equipment, vehicles, planted areas, etc., injure personnel, or patrons, or cause an unsightly wet area in front of any entrances.

3.6 Sleeves:

A. Set sleeves securely in place for all pipes passing through floor and masonry wall openings.

B. Space between sleeve and pipe shall be filled with packing commensurate with construction. Provide chrome wall plates at each side of wall.

C. Sleeves and seals through floors and exterior wall shall be watertight.

D. All sleeves shall meet requirements of all authorities having jurisdiction.

3.7 Fire Department Connection:

A. Install fire department connection properly connected to piping. Provide with check valve. Where located inside building; distance from check valve to wall mounted F.D.C. shall be 4'-0" minimum, and automatic drip connection shall be provided.

B. Where remotely located F.D.C. shall be provided with check valve. Concrete pad shall also be provided and concrete thrust block installed.

C. Provide standard name plate marked "automatic sprinklers".

3.8 Alarm Valves:

A. Install alarm check valve(s), complete with trim including paddle type waterflow indicator connected to fire alarm system where shown on plans.

3.9 Inspector's Test

A. Provide inspector's test connections as specified in NFPA-13. Discharge orifice shall have same size orifice as majority of sprinklers installed.

B. Pipe all inspector's test connection discharges to atmosphere at location where water drain will not damage stock, equipment, vehicles, planted areas, etc., injure personnel, or patrons, or cause an unsightly wet area in front of any entrance.

C. All pipe and fittings downstream of inspector's test valve shall be galvanized.

3.10 Sprinkler Guards and Water Shields:

A. Provide guards for sprinklers within 7 feet of finish floor or wherever sprinklers may be subject to mechanical damage.

3.11 Welding and Flame Cutting:

A. No welding or flame cutting by the Contractor shall be permitted on the premises.

B. Shop welding (off-site) shall meet all NFPA-13 and related requirements. Retrieve all discs from piping.

3.12 Final Inspection and Tests:

A. Overhead sprinkler piping: Tested for a period of two hours at a hydrostatic pressure of 200 lbs. and all piping, valves, sprinklers, etc., shall be watertight.

B. Underground piping: Tested for a period of two hours at a hydrostatic pressure of 200 lbs. in accordance with NFPA Standards. Leakage shall not exceed quantities indicated.

C. Replace piping system components which do not pass the test procedures specified, and retest repaired portion(s) of the system.

D. All underground piping shall be thoroughly flushed in accordance with the requirements of NFPA Standards, prior to connection to overhead piping system. The flush test must be witnessed by all authorities having jurisdiction. A test shall be made before the trench in which pipe is laid is backfilled.

E. The Contractor shall make arrangements with all authorities have jurisdiction for final inspection and witnessing of the final acceptance tests.

F. If, when the Owner's consultant or any other authorities having jurisdiction visit the job site for this purpose after being advised by the Contractor that the work is completed and ready for test, the work has not been completed, or the final acceptance tests are unsatisfactory, the Contractor shall be responsible for Consultant's extra time and expenses for reinspection and witnessing the retesting of the work. Such extra fees shall be deducted from payments by the Owner to the Contractor.

G. Contractor shall provide at least (5) working days notice to Architect and Owner for all tests.

H. Flushing of all piping shall be conducted with water flowing at a minimum velocity of 10 feet per second.

END OF SECTION

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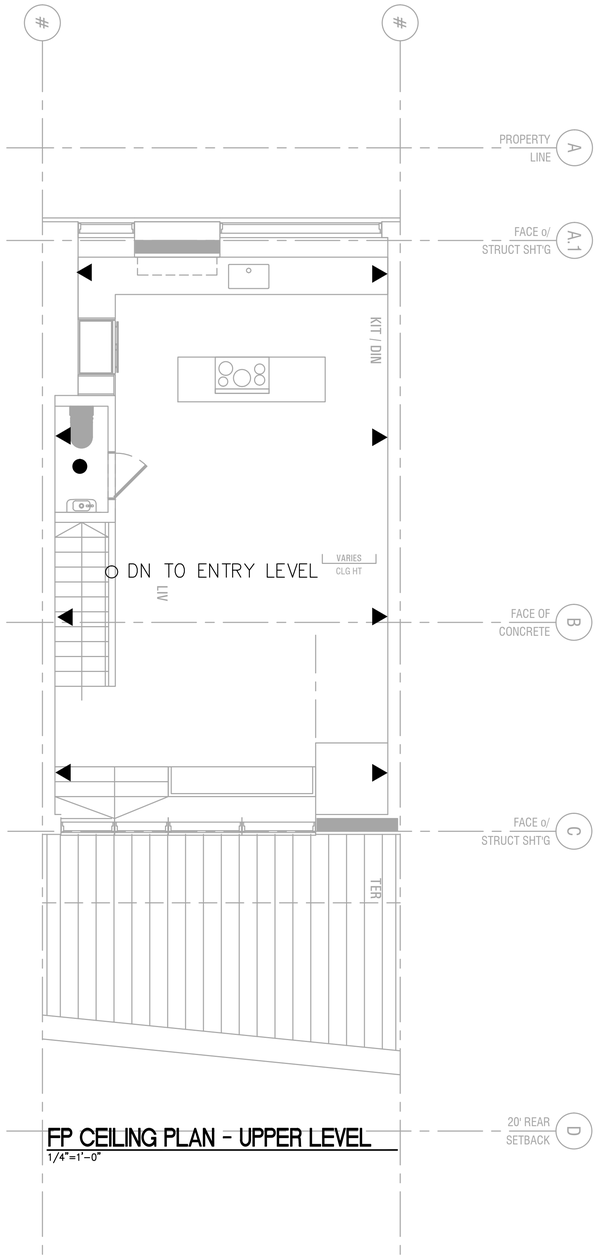
PROFESSIONAL ENGINEER
No. 8795
MARK J. PETERSON
STATE OF UTAH
EXPIRES 03/31/19

FP1.0
FIRE PROTECTION SPECIFICATIONS

NONE
scale

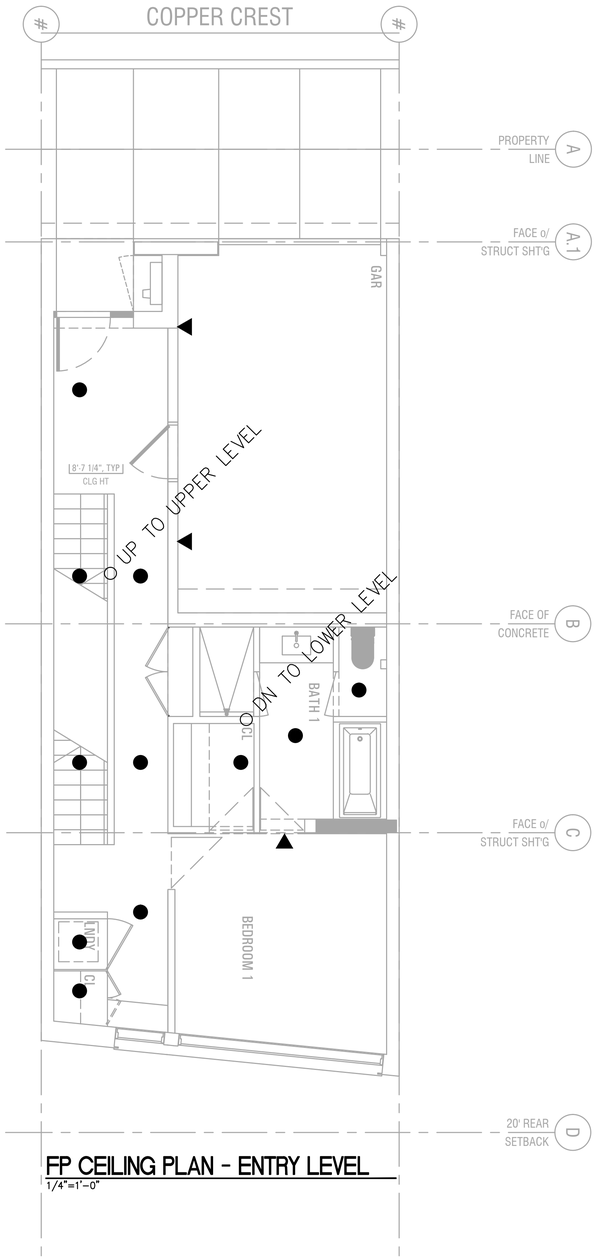
PERMIT
phase / rev

2017.06.01
date



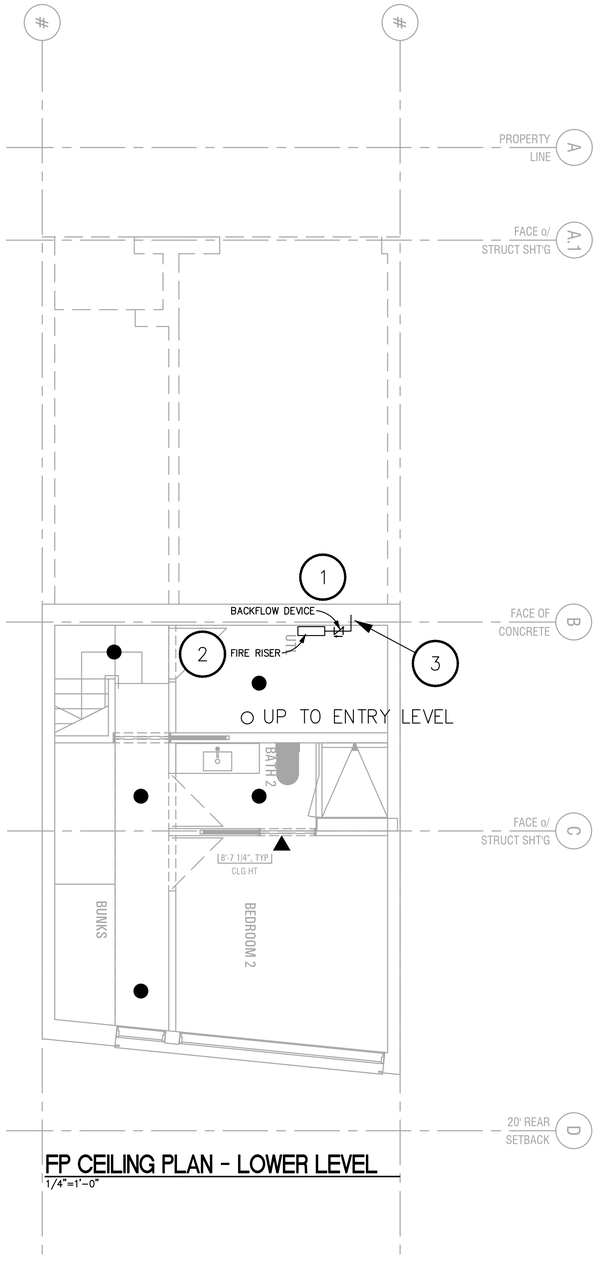
FP CEILING PLAN - UPPER LEVEL

1/4"=1'-0"



FP CEILING PLAN - ENTRY LEVEL

1/4"=1'-0"



FP CEILING PLAN - LOWER LEVEL

1/4"=1'-0"

HAZARD / DENSITY
RESIDENTIAL HAZARD @ 0.05 GPM/SQ. FT. MIN.

KEYNOTES (#)

1. FIRE SPRINKLER BACKFLOW DEVICE.
2. FIRE RISER W/ CONTROL VALVE.
3. UNIT WATER SUPPLY.

LEGEND
● CONCEALED RESIDENTIAL PENDENT SPRINKLER
◀ CONCEALED RESIDENTIAL SIDEWALL SPRINKLER

NOTE:
LISTED HEAT TRACING PROVIDED THAT IT IS INSTALLED AND INSULATED IN ACCORDANCE WITH MANUFACTURE'S INSTRUCTIONS, SPECIFICALLY HEAT TRACING USED ON BRANCH LINES IS LISTED FOR USE ON BRANCH LINES OF FIRE SPRINKLER SYSTEMS. WHERE LISTED HEAT TRACING IS USED ON CPVC PIPING, IT SHOULD BE COMPATABLE WITH THE CPVC PIPING.

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EXPIRES 03/31/19

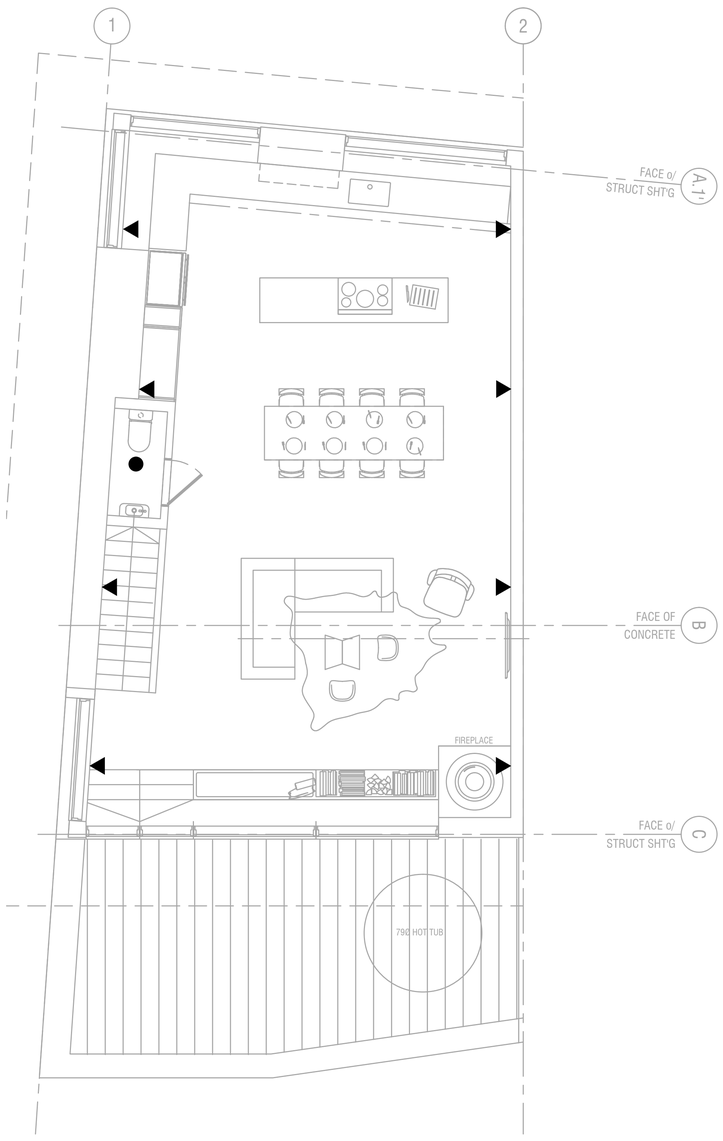
FP2.0

TYPICAL UNIT REFLECTED CEILING PLAN

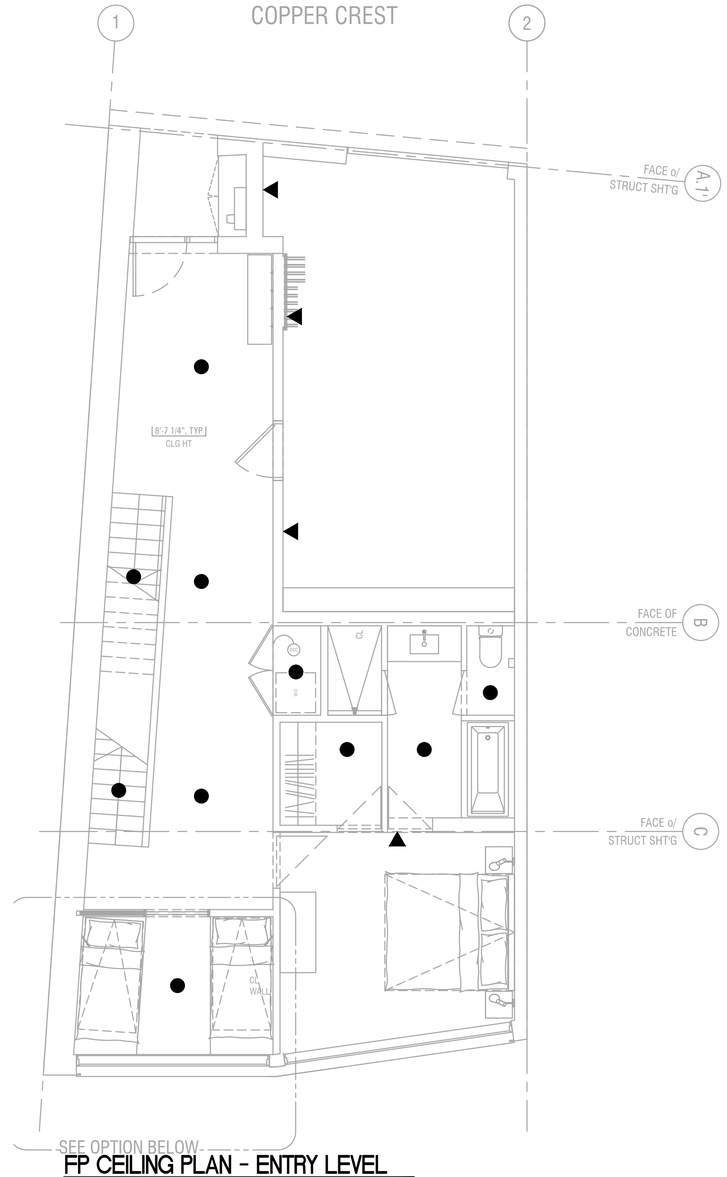
1/4 = 1'-0"
scale

PERMIT
phase / rev

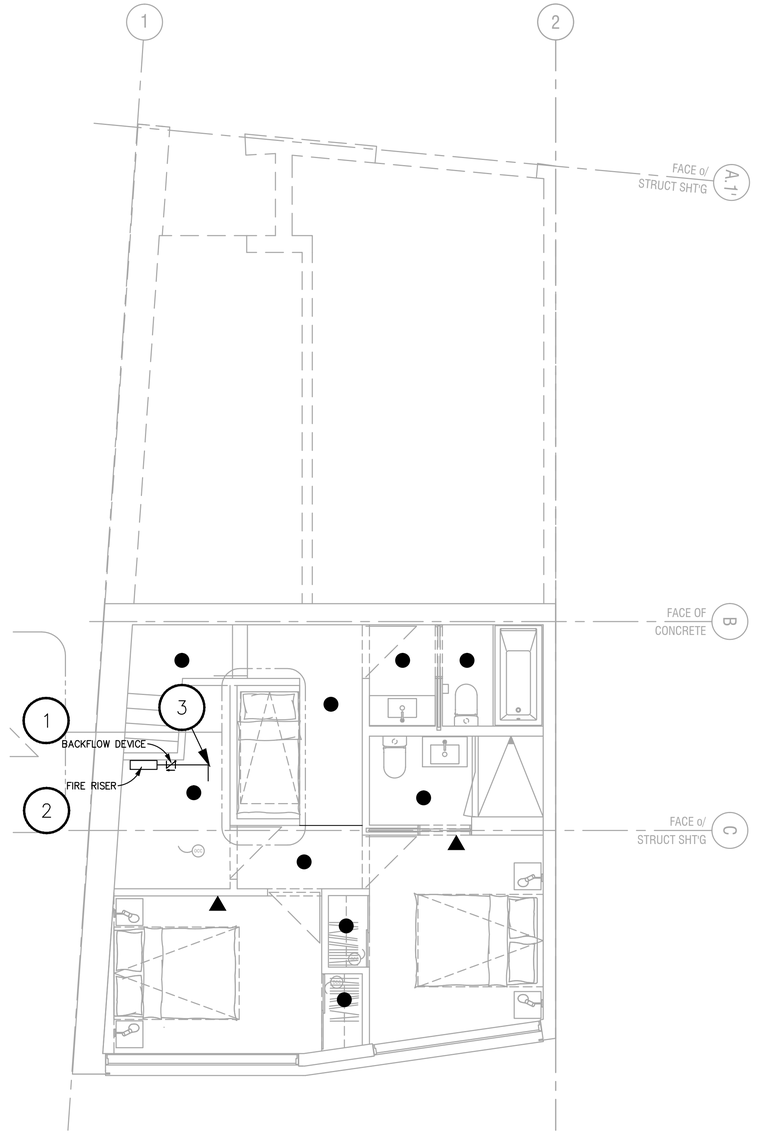
2017.06.01
date



FP CEILING PLAN - UPPER LEVEL
1/4"=1'-0"



FP CEILING PLAN - ENTRY LEVEL
1/4"=1'-0"



FP CEILING PLAN - LOWER LEVEL
1/4"=1'-0"

HAZARD / DENSITY
RESIDENTIAL HAZARD @ 0.05 GPM/SQ. FT. MIN.

KEYNOTES ○

1. FIRE SPRINKLER BACKFLOW DEVICE.
2. FIRE RISER W/ CONTROL VALVE.
3. UNIT WATER SUPPLY.

LEGEND
● CONCEALED RESIDENTIAL PENDENT SPRINKLER
◀ CONCEALED RESIDENTIAL SIDEWALL SPRINKLER

NOTE:
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REGISTERED PROFESSIONAL ENGINEER
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MARK J. PETERSON
6/1/17
STATE OF UTAH

EXPIRES 03/31/19

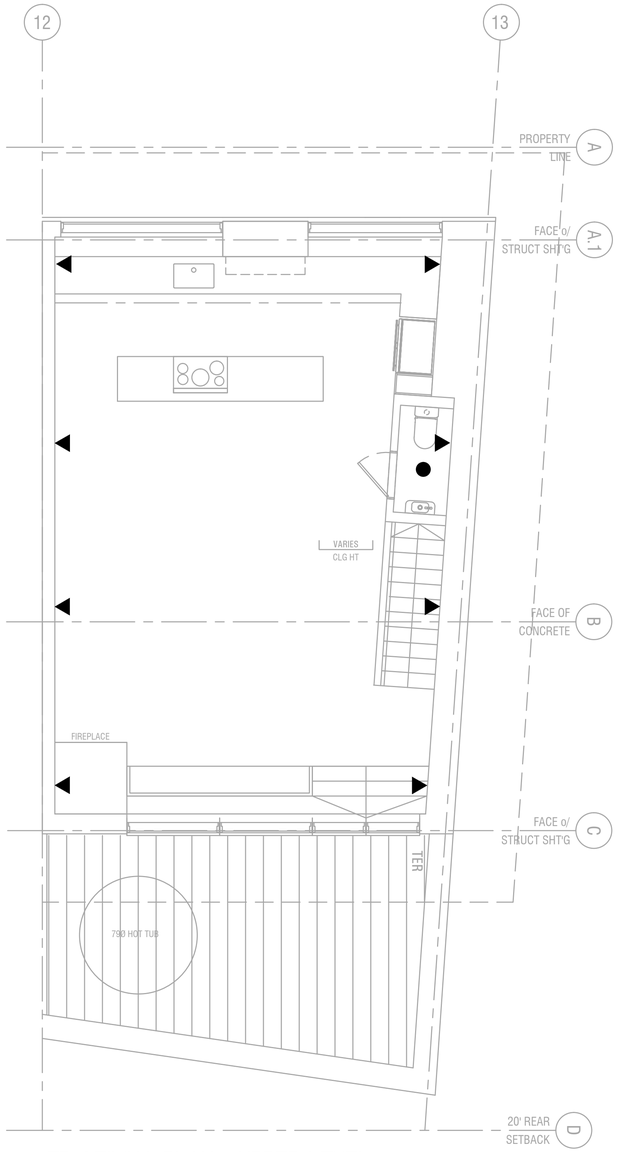
FP2.1

UNIT 124
REFLECTED CEILING PLAN

1/4 = 1'-0"
scale

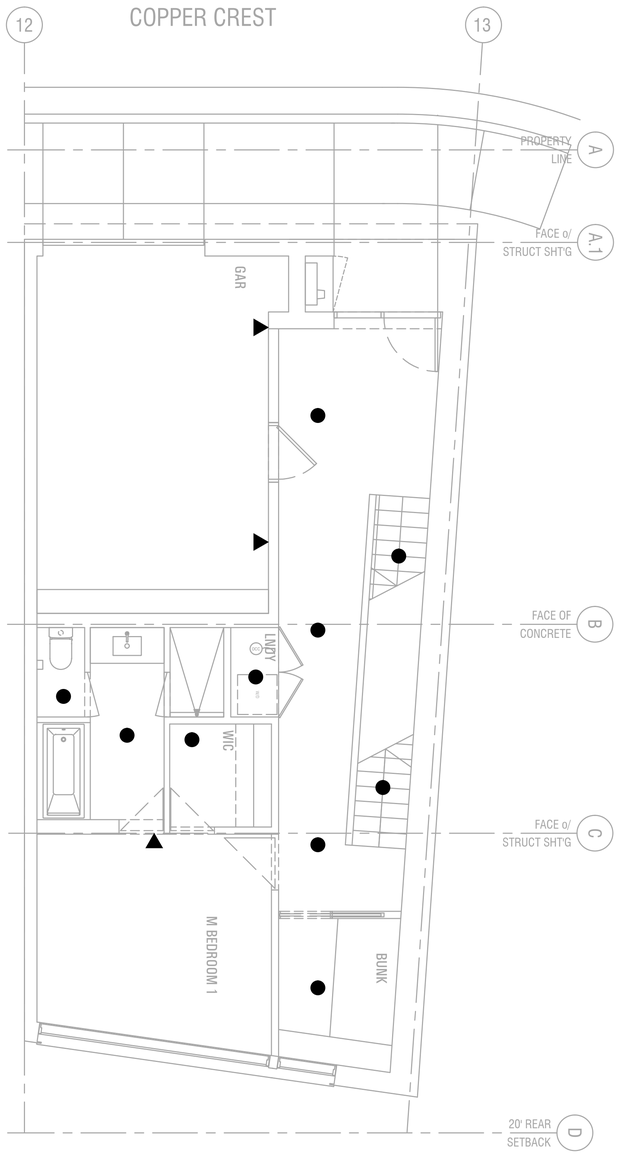
PERMIT
phase / rev

2017.06.01
date



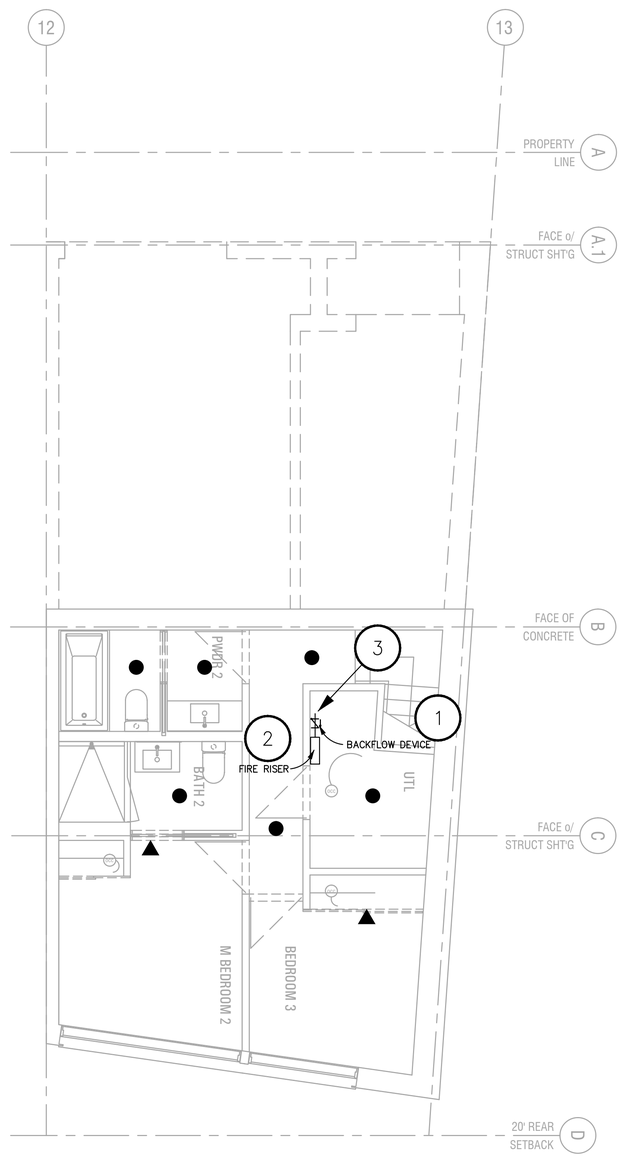
FP CEILING PLAN - UPPER LEVEL

1/4"=1'-0"



FP CEILING PLAN - ENTRY LEVEL

1/4"=1'-0"



FP CEILING PLAN - LOWER LEVEL

1/4"=1'-0"

HAZARD / DENSITY
RESIDENTIAL HAZARD @ 0.05 GPM/SQ. FT. MIN.

KEYNOTES ⓘ

1. FIRE SPRINKLER BACKFLOW DEVICE.
2. FIRE RISER W/ CONTROL VALVE.
3. UNIT WATER SUPPLY.

LEGEND
● CONCEALED RESIDENTIAL PENDENT SPRINKLER
◀ CONCEALED RESIDENTIAL SIDEWALL SPRINKLER

NOTE:
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STATE OF UTAH

EXPIRES 03/31/19

FP2.2

UNIT 133
REFLECTED CEILING PLAN

1/4 = 1'-0"
scale

PERMIT
phase / rev

2017.06.01
date

COPPER CREST

COORDINATE WITH MASTER DEVELOPER FOR PLANT PLACEMENT/TRANSITION LANDSCAPE WITHIN OPEN SPACE

PROVIDE NATIVE GRASS MIX IN ALL SERVICEBERRY BEDS ADJACENT TO HOME (TYP.)

PROVIDE MIN. 3" SOIL PEP MULCH IN ALL YARROW BEDS ADJACENT TO HOME (TYP.)

COORDINATE WITH MASTER DEVELOPER FOR PLANT PLACEMENT/TRANSITION LANDSCAPE WITHIN OPEN SPACE

LOT 124

LOT 125

LOT 126

LOT 127

LOT 128

LOT 129

LOT 130

LOT 131

LOT 132

LOT 133

PROPERTY BOUNDARY

PROPERTY BOUNDARY

PROPERTY BOUNDARY

PROVIDE 8' X 14' CONCRETE LANDING

10' DEFENSIBLE SPACE SETBACK. NO TREE CANOPIES ARE LOCATED WITHIN 10' OF STRUCTURE

10' P.U.E.

PROVIDE 8' X 14' CONCRETE LANDING

REVEGETATE ALL DISTURBED AREAS W/ NATIVE GRASS SEED MIXTURE - SEE NOTES L1.1

NO TREE CANOPIES ARE LOCATED WITHIN 10' OF EACH OTHER WITHIN 30' OF STRUCTURE

EXISTING VEGETATION CONSISTS OF SAGE BRUSH AND NATIVE GRASSES.

EXISTING VEGETATION COVERS ENTIRE LOT WITH THE EXCEPTION OF THOSE AREAS DISTURBED WITH ROADWAY CONSTRUCTION AND REVEGETATED WITH NATIVE GRASS MIX.

NO TREE CLUMPS EXIST ON THE LOT

1

LANDSCAPE DATA

TOTAL AREA OF THE SITE.	18,303 SF
TOTAL AREA AND PERCENTAGE OF THE SITE IN LANDSCAPE AREA.	6,995 SF (38.0%)
TOTAL AREA AND PERCENTAGE OF THE SITE IN TURF GRASS.	0 SF (0%)

5.0' 5.0'

SPRING

N

0 5 10 20 30

SCALE: 1"=10'

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LICENSED LANDSCAPE ARCHITECT
#4987010-5301
CHRIS ERIC LANGVARDT
STATE OF UTAH

L1.1
LANDSCAPE PLAN

AS NOTED
scale

PERMIT SET
phase / rev

2017.06.03
date

GENERAL LANDSCAPE NOTES

1. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF ALL EXISTING AND PROPOSED UTILITIES, AND ALL SITE CONDITIONS PRIOR TO BEGINNING CONSTRUCTION. THE CONTRACTOR SHALL COORDINATE HIS WORK WITH THE PROJECT MANAGER AND ALL OTHER CONTRACTORS WORKING ON THE SITE.

2. THE FINISH GRADE OF ALL PLANTING AREAS SHALL BE SMOOTH, EVEN AND CONSISTENT, FREE OF ANY HUMPS, DEPRESSIONS OR OTHER GRADING IRREGULARITIES. THE FINISH GRADE OF ALL LANDSCAPE AREAS SHALL BE GRADED CONSISTENTLY 3/4" BELOW THE TOP OF ALL SURROUNDING WALKS, CURBS, ETC.

3. THE CONTRACTOR SHALL FLAG THE LOCATION OF ALL PLANTS FOR APPROVAL PRIOR TO PLANTING.

4. THE PLANT MATERIALS LIST IS PROVIDED AS AN INDICATION OF THE SPECIFIC REQUIREMENTS OF THE PLANTS SPECIFIED, WHEREVER IN CONFLICT WITH THE PLANTING PLAN, THE PLANTING PLAN SHALL GOVERN.

5. THE CONTRACTOR SHALL PROVIDE ALL MATERIALS, LABOR AND EQUIPMENT REQUIRED FOR THE PROPER COMPLETION OF ALL LANDSCAPE WORK AS SPECIFIED AND SHOWN ON THE DRAWINGS.

6. ALL PLANT MATERIALS SHALL BE APPROVED PRIOR TO PLANTING. THE OWNER/LANDSCAPE ARCHITECT HAS THE RIGHT TO REJECT ANY AND ALL PLANT MATERIAL NOT CONFORMING TO THE SPECIFICATIONS. THE OWNER/LANDSCAPE ARCHITECTS DECISION WILL BE FINAL.

7. THE CONTRACTOR SHALL KEEP THE PREMISES, STORAGE AREAS AND PAVING AREAS NEAT AND ORDERLY AT ALL TIMES. REMOVE TRASH, SWEEP, CLEAN, HOSE, ETC. DAILY.

8. THE CONTRACTOR SHALL PLANT ALL PLANTS PER THE PLANTING DETAILS, STAKE/GUY AS SHOWN. TOP OF ROOT BALLS SHALL BE PLANTED FLUSH WITH FINISH GRADE.

9. THE CONTRACTOR SHALL NOT IMPEDE DRAINAGE IN ANY WAY. THE CONTRACTOR SHALL ALWAYS MAINTAIN POSITIVE DRAINAGE AWAY FROM THE BUILDING, WALLS, ETC.

10. THE CONTRACTOR SHALL MAINTAIN ALL WORK UNTIL ALL WORK IS COMPLETE AND ACCEPTED BY THE OWNER. UPON COMPLETION OF LANDSCAPE WORK AN INSPECTION FOR ACCEPTANCE OF THE WORK SHALL BE HELD. THE CONTRACTOR SHALL NOTIFY THE OWNER/LANDSCAPE ARCHITECT FOR SCHEDULING OF INSPECTION AT LEAST SEVEN (7) DAYS IN ADVANCE.

11. THE CONTRACTOR SHALL MAINTAIN AND GUARANTEE ALL WORK FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE BY THE OWNER. REPLACEMENT PLANTS SHALL BE GUARANTEED FOR AN ADDITIONAL 90 DAYS. MAINTENANCE SHALL INCLUDE MOWING, WEEDING, FERTILIZING, CLEANING, INSECTICIDES, HERBICIDES, ETC.

12. ALL DISTURBED AREAS ARE TO BE SEEDED WITH STANDARD SEED MIXTURE.

STANDARD SEED MIX

SPECIES	PLANTING RATE (PLS#'S/ACRE)	
LOLIUM PERENNE	PERENNIAL RYEGRASS	8.75
ELYMUS TRACHYCAULUS	SLENDER WHEATGRASS	7.00
PSEUDOROEGNERIA SPICATA V. SECAR	BLUEBUNCH WHEATGRASS	5.25
PASCOPYRUN SMITHII	WESTERN WHEATGRASS	5.25
FESTUCA OVINA	SHEEP FESCUE	3.50
LINUM LEWISII	BLUE FLAX	1.00
A. TRIDENTATA SP. WYOMINGENSIS	SAGEBRUSH	1.25
TOTAL		32.00

1

GROUND PLANE IRRIGATION NOTES:

1. ALL PLANT MATERIALS SHOWN ON THE DRAWING SHALL BE SERVICED BY AN AUTOMATIC UNDERGROUND IRRIGATION SYSTEM. ALL SHRUB BED AREAS, INCLUDING TREES SHALL BE IRRIGATED WITH A LOW PRESSURE DRIP IRRIGATION SYSTEM. ALL NATIVE GRASS AREAS SHALL BE IRRIGATED WITH A BROADCAST IRRIGATION SYSTEM.

2. THE CONTRACTOR IS TO HAVE A QUALIFIED IRRIGATION SYSTEM SPECIALIST PREPARE A DESIGN FOR AN AUTOMATIC UNDERGROUND IRRIGATION SYSTEM AND SUBMIT DRAWINGS TO THE ENGINEER FOR APPROVAL AT LEAST 30 DAYS PRIOR TO THE SYSTEM INSTALLATION.

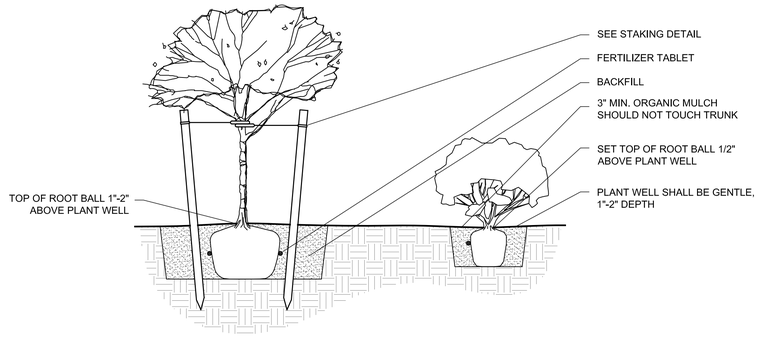
3. UNDERGROUND IRRIGATION SYSTEM DRAWINGS SHALL BE PREPARED ON 24"X 36" SHEETS, NEATLY DRAWN AND VERY LEGIBLE. DRAWINGS ARE TO INCLUDE HEAD SPACING, TYPES OF HEADS, PIPING WITH SIZES, VALVES, FITTINGS AND ALL OTHER ITEMS REQUIRED FOR PROPER INSTALLATION OF THE SYSTEM.

4. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ALL IRRIGATION SLEEVES PRIOR TO PLACEMENT OF HARD IMPROVEMENTS. COORDINATE WITH THE GENERAL CONTRACTOR.

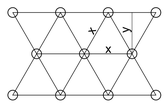
5. THE UTILITY CONTRACTOR IS TO PROVIDE AN IRRIGATION SYSTEM CONNECTION TO EITHER THE CULINARY OR SECONDARY WATER LINE WITH A BACK FLOW PREVENTION DEVICE, AS APPLICABLE, WITHIN STATE AND LOCAL JURISDICTIONAL CODES. THE IRRIGATION CONTRACTOR IS RESPONSIBLE TO COORDINATE THIS ITEM WITH THE UTILITY CONTRACTOR. IF SECONDARY WATER IS USED, THE SYSTEM SHALL BE FILTERED WITH A CLEANABLE FILTER SYSTEM.

6. THE IRRIGATION CONTROL BOX SHALL BE LOCATED AT THE DIRECTION OF THE PROJECT MANAGER/OWNER OR ARCHITECT.

BACKFILL:
ONE PART MULCH TO THREE PARTS NATIVE SOIL.
PLANTING PIT SIZES:
1 GAL. OR 5 GAL. - 2X WIDTH OF ROOT BALL, DEPTH = ROOT BALL + 6"
15 GAL. OR LARGER - 3X WIDTH OF ROOT BALL, DEPTH = ROOT BALL + 12"
FERTILIZER TABLETS (21 GRAM AGRIFORM TABLETS)
1 PER 1 GAL., 3 PER 5 GAL., 5 PER 15 GAL., 1 PER 3" OF BOX SIZE (24" BOX OR LARGER)



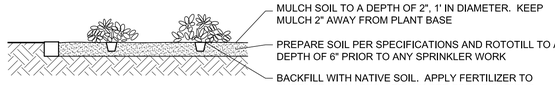
1 TREE AND SHRUB PLANTING DETAIL



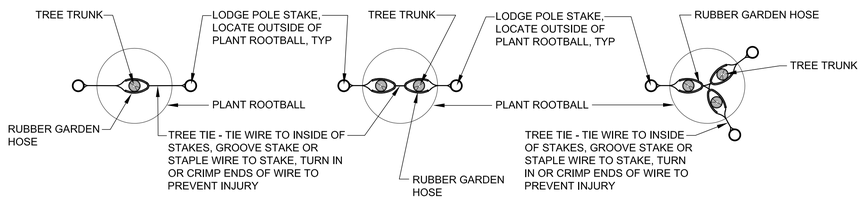
NOTE:
ALL GROUNDCOVERS TO BE PLANTED ON CENTER (SEE PLANT LEGEND) IN A TRIANGULAR PATTERN.

PLANT SPACING

SPACING (x)	ROW (y)	AREA PER PLANT
3 FT. O.C.	2.60 FT.	7.80 FT²
4 FT. O.C.	3.46 FT.	13.84 FT²

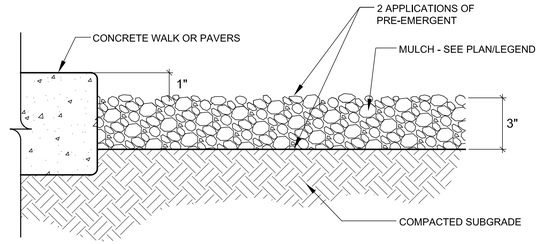


2 PERENNIAL/GROUNDCOVER PLANTING DETAIL



TREE STAKING PLAN - STANDARD TREE STAKING PLAN - MULTIPLE TREE STAKING PLAN - MULTIPLE

3 TREE STAKING DETAIL
note: only provide staking if conditions require it



NOTES:
1. SUBMIT MATERIAL TO LANDSCAPE ARCHITECT FOR APPROVALS.
2. PRE-EMERGENT SHALL BE APPLIED TO FINISH GRADE BEFORE INSTALLATION OF MULCH.
3. FINAL APPLICATION OF PRE-EMERGENT SHALL BE APPLIED TO FINISH GRADE AFTER INSTALLATION OF COBBLE IS RAKED SMOOTH AND UNIFORM.

4 LANDSCAPE MULCH
Scale: NTS

Plant Schedule

QUANTITY	SYMBOL	BOTANICAL/COMMON NAME	INSTALLED SIZE
		SHRUBS	
8	AG	Acer ginnala 'Flame' Amur Maple	8' CLUMP
42	Y	Achillea filipendulina Yellow Yarrow	1 Gal.
24	AS	Amelanchier alnifolia Saskatoon Saskatoon Serviceberry	5 Gal.
16	ART	Artemisia Tridentata Big Sagebrush	5 Gal.
12	CH	Chrysothamnus nauseosus Rubber Rabbitbrush	5 GAL.
27	PF	Potentilla fruiticosa 'Jackmanii' Jackman Potentilla	5 Gal.
14	RA	Ribes alpinium Alpine Currant	5 Gal.
12	SO	Symphoricarpos alba Snowberry	5 Gal.
6,590 S.F.		Native Grass Mix (See Notes)	Seed

SHRUB BED NOTE:

ALL SHRUB BEDS SHALL CONSIST OF NATIVE GRASS SEED MIXTURE UNLESS NOTED ON THE PLAN - SEE GENERAL LANDSCAPE NOTE 12.

DEFENSIBLE SPACE NOTE:

CANNOT HAVE TREES WITHIN 10 FEET OF ANY STRUCTURE. TREES SHALL BE PRUNED TO MAINTAIN A MINIMUM HORIZONTAL CLEARANCE OF 10 FEET FROM THE STRUCTURE. TREES WITHIN THE DEFENSIBLE SPACE SHALL BE PRUNED TO REMOVE LIMBS AND FUEL LADDERS TO A HEIGHT OF 6 FEET ABOVE THE GROUND SURFACE ADJACENT TO THE TREES.

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LICENSED LANDSCAPE ARCHITECT
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CHRIS ERIC
LANGVARDT
STATE OF UTAH

L1.2
LANDSCAPE DETAILS

AS NOTED
scale

PERMIT SET
phase / rev

2017.06.03
date